REQUEST FOR PERMIT TO CONDUCT RIGHTS-OF-WAY SPRAYING
[IN VERMONT]

Request is hereby made, pursuant to Title 6 V.S.A., Chapter 87, and the regulations issued pursuant thereto, for an approved permit to conduct spraying on rights-of-way within the State of Vermont.

A. General Information

1. Title of Organization **St. Lawrence & Atlantic Railroad**

2. Address: **225 First Flight Drive, Suite 201**
Auburn, ME 04210

3. Telephone Number: **802-624-6184 [phone for Chris Fletcher]**

4. Contact Person: **Christopher Fletcher, Ass't. Roadmaster**

5. Type of Right-of-Way:

___ a. Electric Power Transmission Line
___ b. Electric Power Distribution Line
___ c. Telephone Line
___ d. Highway
___ e. Pipeline (Specify: Gas, Soil, Water)
__X__ f. Railroad
___ g. Airport Approaches and Safety Zones
___ h. Other - Describe

6. Type of Treatment

___ a. Selective Basal
___ b. Stump Treatment
___ c. Dormant Cane (Broadcast Basal)
__X__ d. Soil Applications (Soil Sterilant)
___ e. Ground Broadcast Stem-Foliage
___ f. Stem Injection (Frill Treatment)
___ g. Other - Describe:

7. Railroad Right-of-Way Treatment

__X__ a. Ballast

___ b. Shoulder

B. Site Specific Information

1. List Towns where Treatment will be Made: **Warren Gore, Norton, Morgan, Brighton, Brunswick, Bloomfield.**

2. Total Acreage to be Treated Total Acres: 1**70 acres**
[based on 58 miles in VT, per parent company Genesee & Wyoming website; and 24-ft. width of ballast treatment]
Ground Application Acres: **170 acres**

3. Width of Right-of-Way Feet: **varies: 25 to 160**

4. Width of Area In Right-of-Way to be Treated Feet: **24**

5. Anticipated Starting Date: **May 15, 2019**

C. Special Needs - Treatment Within Buffer Strips
No treatment is proposed within 15-foot Buffer Strips.
1. Specific Areas where Application is to be Made:
No treatment is proposed within 15-foot Buffer Strips.
2. Type of Vegetation to be Controlled:
No treatment is proposed within 15-foot Buffer Strips.
3. Pesticide(s) to be Applied (List Here and in Section E):
No treatment is proposed within 15-foot Buffer Strips.
4. Rate of Application (List Here and in Section E):
No treatment is proposed within 15-foot Buffer Strips.
5. Application Technique to be Implemented:
No treatment is proposed within 15-foot Buffer Strips.
6. Application Equipment to be Used:
No treatment is proposed within 15-foot Buffer Strips.
7. Explain how this Request will Protect Sensitive Areas, Sensitive Crops, Site Conditions, Wells, etc.:
Herbicide applicator will adhere to required buffers by pre-flagging the no-spray limits pertaining to surface water crossings or other identified sensitive areas and sensitive crops; including a 500-foot no-spray zone around the Graham property in Norton; and by observing no-spray limits from public and private drinking water sources as identified on the ANR Natural Resources Atlas, or through identification provided by well owners to St. Lawrence & Atlantic Railroad; SLR], or as identified in the field by SLR or herbicide applicator.

D. Contractor Information

1. Contractor's Name: **Asplundh Railroad Division; Don Weimann**

2. Company Name: **Asplundh Railroad Division**

3. Company Address: **720 County Road 400**
Ironton, OH 45638

4. Current Vermont Applicator Certificate Number: **1499-4801**

5. Company Telephone Number: **740-532-7035**

E. Control Details

Pesticides to be used and rates to be applied. If more than one chemical is listed, a summary of the uses intended for each chemical must be provided. The summary should state whether the chemical will be mixed or applied separately, specifying which chemicals will control what types of vegetation. (Please Note: A copy of a label, MSDS sheet and EPA Fact Sheet [if available] must be supplied for each chemical to be used.)

a. Standard ballast treatment locations: spray 24-foot wide area from centerline, and wider between tracks in rail yards;
b. At public and private road crossings, spray 24 feet from center line on either side, for 300 feet preceding and following each crossing;
c. At whistle posts, spray 24 feet from centerline on the side of the whistle post, for 20 feet preceding the whistle post and 5 feet following the whistle post;
d. **At mile posts, spray no greater than 24 feet from centerline, beginning no farther than 20 feet preceding and following the mile posts**
e. **Around signal cases, masts, stored materials and railroad yard applications: applications in accordance with product label.**

Trade Name	Common Name of Active Ingredient(s)	EPA Reg. Number	Applic. Rate Product/Acre	Vegetation to Be Controlled	Type of Application and Equipment to be Used
Accord XRT II	**50% Glyphosate**	**62719-556**	**2 pints/acre**	**Weeds, Grass, Broadleaves**	**Highrail truck with boomless nozzle, or Fixed boom 18 in. above rails**
Opensight	**62% Aminopyralid; 10% Metsulfuron-methyl**	**62719-597**	**3 oz./acre**	**Weeds, Grass, Broadleaves**	**Same as above**
Polaris AC Complete	**53% Isopropylamine salt of Imazapry**	**228-570**	**1 pint/acre**	**Weeds, Grass, Broadleaves**	**Same as above**
					Formulations will be mixed in approximately 30 gallons of water per acre.

NOTE: A drift retardant "Control WM" manufactured by GARRCO will be added at a rate of 0.8 oz./acre to all formulations to reduce the chance of drift to non-targeted areas. Formulations will also include "Hot MES" manufactured by Drexel, at a rate of 2 oz./acre, which includes a surfactant/emulsifier blend and methylated seed oil to improve performance.

F. Methods of Notification

1. List the Newspapers in which you will Advertise this Application to Comply with Section IV, 4.b., of the Vermont Regulations for Control of Pesticides.
   Newport Daily Express, Caledonian Record, News & Sentinel [or other newspapers providing approximately similar coverage].

2. Please Indicate Other Notification Option Chosen to Comply with Section IV, 4.c, of the Vermont Regulations for Control of Pesticides.
   Radio Announcements on WMOO, WLTN [or other radio stations providing approximately similar coverage].

G. Other Information To Be Submitted With Application

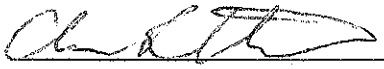
1. Two (2) Sets of Geodetic (in 7.5-minute scale) or Orthophoto Maps indicating the Right-of-Way to be Treated. (Only one set of maps is needed if maps have been previously submitted and revisions have not been made.) **Maps are currently being checked for new wells shown on the ANR Natural Resources Atlas that were not identified on the 2017 maps. This updated set of maps will be provided in mid-April.**

2. Current Labelling for each Pesticide to be Used. **Attached.**
3. Current Material Safety Data Sheet (MSDS) for each Pesticide to be Used. **Attached.**
4. Current Environmental Protection Agency Pesticide Fact Sheet (if available).

The undersigned accepts full responsibility for all statutes and regulations of the State of Vermont and understands that any authorization is limited to the described materials, locations and time periods stated herein.

The undersigned further understands that weekly spray and dusting operations must be reported to the Vermont Agency of Agriculture. Such written report shall be on forms furnished by the Secretary of Agriculture and placed in the mail not later than the close of business on the Monday following the week's operation.

3/29/19
Date


Signature of Applicant

(NOTE: Additional sheets may be attached to include further information.)

ATTACHMENT

PUBLIC NOTICES:

- **Newspaper Ads [Legal Notices]**
- **Radio Spots**

PROPOSED HERBICIDES:
SAFETY DATA SHEETS [SDSs],
LABELS for:

- **Accord XRT II**
- **Opensight**
- **Polaris AC**

ATTENTION: LEGAL ADVERTISING DEPARTMENT

Please advertise the following notice in the legal section of your newspaper on the TWO consecutive Thursdays in April 2019 as soon as possible after receiving this document, unless publication does not occur on Thursdays, in which case the notices should be placed on the nearest publishing dates. The notice should be at least two (2) columns wide by three (3) inches high, worded as follows:

NOTICE OF INTENT TO APPLY HERBICIDES

The St. Lawrence & Atlantic Railroad will spray its right-of-way for weed control. Spray will be conducted by a Vermont-certified herbicide applicator on or about approximately May 15, 2019, and will be limited to areas in accordance with the herbicide application permit. A request for permission to use herbicides has been submitted to the State of Vermont Commissioner of Agriculture.

Spraying will be conducted in the following towns in Vermont: Warren Gore, Norton, Morgan, Brighton, Ferdinand, Brunswick and Bloomfield.

The following herbicides will be applied in liquid form: Opensight, Accord XRT II, and Polaris AC.

Residents along the right-of-way who have private water supplies or other sensitive areas should be protected from this herbicide application. Residents must notify these contact persons about the existence of these features: Chris Fletcher, Assistant Roadmaster, St. Lawrence & Atlantic Railroad (802-624-6184); or Wendy Shellito, Project Scientist, Waite-Heindel Environmental Management (802-860-9400 x103).

For further information or complaints, contact the Vermont Department of Agriculture, Food & Markets, 116 State Street, Montpelier, VT, phone (802) 828-2431.

ATTENTION: RADIO ADVERTISING DEPARTMENT

Please advertise the NOTICE OF INTENT TO APPLY HERBICIDES on your radio station in three spot messages per day on two consecutive days between May 1, 2019 and May 15, 2019:

NOTICE OF INTENT TO APPLY HERBICIDES

The St. Lawrence & Atlantic Railroad will spray its right-of-way for weed control on or about approximately May 15, 2019. Spraying will be conducted in the towns of Warren Gore, Norton, Morgan, Brighton, Ferdinand, Brunswick and Bloomfield.

Residents along the right-of-way who have private water supplies or other sensitive areas should be protected from this herbicide application. Residents must notify one of the following persons about the existence of these features: Chris Fletcher at the St. Lawrence & Atlantic Railroad, phone number 802-624-6184; or Wendy Shellito, Project Scientist at Waite-Heindel Environmental Management, phone number 802-860-9400 extension 103.

For further information or complaints, contact the Vermont Department of Agriculture, Food & Markets in Montpelier phone number 802-828-2431.

ACCORD XRT II

Specimen Label

Dow AgroSciences

Accord® XRT II

HERBICIDE

®Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

- **A non-selective broad spectrum systemic herbicide for control of annual and perennial weeds and woody plants in**
- **Conservation Reserve Program (CRP), rangeland and permanent grass pastures**
- **forest sites, conifer plantations;- airports, barrow ditches, communication transmission lines, electrical power and utility rights-of-way, fencerows, gravel pits, industrial sites, military lands, mining and drilling areas, non-irrigation ditch banks, oil and gas pads, ornamental sites, parking lots, petroleum tank farms, pipelines, railroads, roadsides, storage areas, storm water retention areas, substations, unimproved rough turf grasses, sod or turfgrass seed farms, vacant lots and other non-crop residential areas;**
- **natural areas (open space) for example, campgrounds, parks, prairie management, trails and trailheads, recreation areas, wildlife openings and wildlife habitat and management areas;**
- **in and around seasonally dry wetlands;**
- **including grazed areas on all of these listed sites**

Avoid contact of herbicide with foliage, green stems, exposed non-woody roots or fruit of crops, desirable plants and trees, because severe injury or destruction may result.

Group	9	HERBICIDE

Active Ingredient:

glyphosate: N-(phosphonomethyl)glycine, dimethylamine salt	50.2%
Other Ingredients	49.8%
Total	100.0%

Contains 5.07 lb per gallon glyphosate, dimethylamine salt (4 lb per gallon glyphosate acid).

Precautionary Statements

Hazards to Humans and Domestic Animals

EPA Reg. No. 62719-556

CAUTION

Causes Moderate Eye Irritation • Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Reactions In Some Individuals

Avoid contact with eyes or clothing.

Personal Protective Equipment (PPE)

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

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as natural rubber
- Shoes plus socks

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

Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

First Aid

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

If on skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

Domestic Animals: This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

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

Directions for Use

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

Read all Directions for Use carefully before applying.

This is an end-use product. Dow AgroSciences does not intend and has not registered it for reformulation.

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 4 hours.

Agricultural Use Requirements (Cont.)

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material such as natural rubber
- Shoes plus socks

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried.

Storage and Disposal

Pesticide Storage: Do not contaminate water, food, feed or seed by storage or disposal.

Pesticide Disposal: Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures. Emptied container contains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

Nonrefillable containers 5 gallons or less:
Container Handling: Nonrefillable container. Do not reuse or refill this container.
Triple rinse or pressure rinse container (or equivalent) 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 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. 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.

Refillable containers larger than 5 gallons:
Container Handling: 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 a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two 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.

Nonrefillable containers 5 gallons or larger:
Container Handling: Nonrefillable container. Do not reuse or refill this container. .
Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. 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.

Product Information

Accord® XRT II herbicide is a broad spectrum, systemic, postemergence herbicide with no soil residual activity. It is intended for control of annual and perennial weeds and woody plants and brush. It is formulated as a water soluble liquid containing surfactant; no additional surfactant is needed.

Time to Symptoms: The active ingredient in this product moves through the plant from the point of foliage contact into the root system. Visible effects on most annual weeds occur within two to four days, but on most perennial weeds visible effects may not occur for seven days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant that advances to complete browning of above ground growth and deterioration of underground plant parts.

Stage of Weeds: Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity or when translocation is mostly down to the roots, i.e.autumn for perennial plants or woody plants.

Mode of Action: The active ingredient in this product inhibits an enzyme. This enzyme is found only in plants and microorganisms that are essential to forming specific amino acids.

Cultural Considerations: Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the specified stage for treatment.

Rainfastness: Heavy rainfall soon after application may wash off this product from the foliage and a repeat application may be required for adequate control.

No Soil Activity: Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or rootstocks of perennials will not be affected by the herbicide and will continue to grow.

Maximum Application Rates: The maximum application rates specified in this label are given in units of volume, either fluid ounces, pints or quarts, of this product per acre. The maximum allowed application rates apply to this product combined with the use of any and all other glyphosate-containing herbicides, either applied separately or in a tank mix, on the basis of total pounds of glyphosate (acid equivalents) per acre. If more than one glyphosate-containing product is applied to the same site within the same year, ensure that the total of pounds acid equivalent gyphosate does not exceed the maximum allowed. Do not apply more than a total of 8 quarts (8 lb glyphosate acid) of this product per acre per year.

Herbicide Resistance Management

Glyphosate, the active ingredient in this product, is a Group 9 herbicide (inhibitor of EPSP synthase enzyme). Some naturally occurring weed biotypes that are tolerant (resistant) to glyphosate may exist due to genetic variability in a weed population. Where resistant biotypes exist, the repeated use of herbicides with the same mode of action can lead to the selection for resistant weeds. Certain agronomic practices reduce the likelihood that resistant weed populations will develop, and can be utilized to manage weed resistance once it occurs.

To delay the selection for glyphosate resistant weeds, use the following practices:

- Scout fields before and after application to detect weed escapes or shifts in weed species.
- Start with a clean field by applying a burndown herbicide or by tillage.
- Control weeds early when they are small.
- Add other herbicides, such as a selective and/or a residual herbicide, and cultural practices, such as tillage or crop rotation, where appropriate.
- Use the application rate for the most difficult to control weed in the field. Do not tank mix with other herbicides that reduce this product's efficacy through antagonism or with ones that encourage application rates of this product below those specified on this label.
- Control weed escapes and prevent weeds from setting seeds.
- Before moving from one site to another, clean equipment to minimize the spread of weed seeds or plant parts.
- Use new commercial seed that is as free of weed seed as possible.
- Report any incidence of repeated non-performance of this product against a particular weed species to the local retailer, county extension agent, or Dow AgroSciences representative.

Appropriate testing is needed to determine if a weed is resistant to glyphosate. The following good agronomic practices can reduce the spread of confirmed glyphosate-resistant biotypes:

- Tank mix this product or apply it sequentially with an appropriately labeled herbicide with a different mode of action to achieve control if a naturally occurring resistant biotype is present in the field.
- Cultural and mechanical control practices, such as crop rotation or tillage, may also be used.
- To control weed escapes, including resistant biotypes, before they set seed, scout treated fields after applying this product.
- Thoroughly clean equipment before leaving any site known to contain resistant biotypes.

Because the presence of glyphosate resistance in weed populations is difficult to detect prior to use, Dow AgroSciences accepts no liability for any losses that may result from the failure of this product to control glyphosate-resistant weeds.

Glyphosate-Resistant Ryegrass
(Not for Use in California)
Preemergence: To control other emerged weeds, apply this product in a tank mix with a preemergence herbicide labeled for control of ryegrass.

Preemergence and Postemergence: To control other emerged weeds, apply this product in a tank mix with a residual preemergence herbicide and a postemergence herbicide (other than glyphosate) labeled for control of ryegrass. Apply according to the herbicide label directions for optimum control of ryegrass.

Postemergence: To control other emerged weeds, apply this product in a tank mix with another postemergence herbicide labeled for control of ryegrass. Apply according to the herbicide label directions for optimum control of ryegrass

Attention

Avoid contact of herbicide with foliage, green stems, exposed non-woody roots or fruit of crops, desirable plants and trees, because severe injury or destruction may result.

AVOID DRIFT. Use extreme care when applying this product to prevent injury to desirable plants and crops.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. **Avoid applying at excessive speed or pressure.**

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

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 determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

- The distance of the outermost nozzles on the boom must not exceed 3/4 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.

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 supercede the mandatory label requirements.

Importance of Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent adverse effects from 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. Use the lower spray pressures for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle orientation** - Orienting nozzles so that the spray is 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 lowest 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 must not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2 to 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 must 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 connected cloud (under low wind conditions) indicates an inversion, while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas: The pesticide must 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).

Mixing Directions

Use only clean, stainless steel, fiberglass, plastic or plastic-lined steel containers to mix, store and apply spray solutions of this product.

Eliminate any risk of siphoning the contents of the tank mix back into the carrier source while mixing. Use approved anti-back-siphoning devices where required by state or local regulations.

Note: Reduced results may occur if water containing soil is used, such as visibly muddy water or water from ponds and ditches that is not clear.

Accord® XRT II – Alone
This product mixes readily with water. Mix spray solutions of this product as follows:

1. Fill the mixing or spray tank with the required amount of clean water.
2. Add the specified amount of this product near the end of the filling process and mix well.
3. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foaming, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

Accord® XRT II – Tank Mixing for use on any site listed on this label
This product does not provide residual weed control. For residual weed control or to broaden the weed control spectrum, tank mix this product with other herbicides. Refer to the label of the tank mix partner for use sites and application rates. Read and carefully observe the precautionary statements and all other information on the labels of all herbicides used. Use according to the most restrictive label directions of any product in the mixture. A compatibility test may be done prior to using a product that has not been tank mixed before with Accord XRT II in your program. See testing procedure below.
The user is responsible for ensuring that the specific application being made is included on the label of the product used in the tank mix and is compatible with Accord XRT II, especially if using a generic product with active ingredients, such as 2,4-D, atrazine, dicamba, diuron, pendimethalin or other herbicide, is listed in the label.

Add the tank mix product to the tank as directed by the label. Maintain agitation and add the required amount of this product. Maintain good agitation at all times until the contents in the tank are sprayed. If the mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying resumes. Keep the bypass line on or near the bottom of the tank to minimize foaming. The screen size in the nozzle or line strainers should be no finer than 50 mesh.

Tank Mix Compatibility Testing: Perform a jar test prior to mixing in a spray tank to ensure compatibility of Accord XRT II and other pesticides or carriers. Use a clear glass jar with lid and mix ingredients in the same order and proportions as will be used in the spray tank. The mixture is compatible if the materials mix readily when the jar is inverted several times. The mixture should remain stable after standing for 1/2 hour or, if separation occurs, should readily remix if agitated. An incompatible mixture is indicated by separation into distinct layers that do not readily remix when agitated and/or the presence of flakes, precipitates, gels, or heavy oily film in the jar. Use of an appropriate compatibility aid may resolve mix incompatibility. If the mixture is incompatible do not use that tank mix partner in tank mixtures.

Note: If tank mixing with a product containing triclopyr amine, such as Garlon® 3A herbicide or Capstone, ensure that the triclopyr amine product is well mixed with at least 75 percent of the total spray volume before adding this product to the spray tank to avoid incompatibility.

To the extent consistent with applicable law, buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly specified in this labeling. Mixing this product with herbicides or other materials not specified on this label may result in reduced performance.

Handheld Sprayers
Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

Spray Concentration (percent)	Amount of This Product for Desired Volume		
	1 gal	25 gal	100 gal
0.5	2/3 fl oz	1 pt	2 qt
0.75	1 fl oz	24 fl oz	3 qt
1	1 1/3 fl oz	1 qt	1 gal
1.5	2 fl oz	1 1/2 qt	1 1/2 gal
2	2 2/3 fl oz	2 qt	2 gal
3.75	5 fl oz	3 3/4 qt	3 3/4 gal
5	6 1/2 fl oz	5 qt	5 gal
10	13 fl oz	10 qt	10 gal

For best results when using knapsack sprayers, mix the specified amount of this product with water in a larger container. Fill sprayer with the mixed solution.

Colorants or Dyes
Agriculturally-approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's directions.

Application Equipment and Application Methods

Chemigation: Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment. Apply spray solutions in properly maintained and calibrated equipment capable of delivering desired volumes.

Aerial Application in All States Except California (see below for California aerial application information)
Apply this product using aerial spray equipment only under conditions as specified within this label.

Avoid drift. Do not apply when winds are gusty or under any other condition which favors drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation, maintain appropriate buffer zones.

Do not directly apply to any body of water.

Use the specified rates of this herbicide in 3 to 25 gpa of water unless otherwise specified on this label. Refer to the specific use directions of this label for volumes and application rates.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations that dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure. A drift control additive may be used. When a drift control additive is used, carefully read and observe the precautionary statements and all other information specified on the additive label.

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. **Prolonged exposure of this product to uncoated steel surfaces may result in corrosion and possible failure of the part. Landing gear components are most susceptible.** The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may prevent corrosion.

Aerial Application in California Only
Use the following guidelines when aerial applications are made near crops or desirable perennial vegetation after bud break and before total leaf drop, and/or near other desirable vegetation or annual crops:

- Do not apply within 100 feet of all desirable vegetation or crop(s).
- If wind up to 5 miles per hour is blowing toward desirable vegetation or crop(s), do not apply within 500 feet of the desirable vegetation or crop(s).
- Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crop(s) may require buffer zones in excess of 500 feet.
- Do not apply when winds are in excess of 10 miles per hour or when inversion conditions exist.

When this product is applied under the conditions described, it controls annual and perennial weeds listed in the label affixed to the container.

Only 2,4-D amine formulations may be used for aerial applications in California. Tank mixes with 2,4-D amine formulations may be applied by air in California for fallow and reduced tillage systems, and for alfalfa and pasture renovation applications only. Do not aerially apply any tank mixes with dicamba in California.

Additional Information for Fresno County, California: Within the boundaries of Fresno County, California, the following information applies only from February 15 through March 31:

North: Fresno County line
South: Fresno County line
East: State Highway 99
West: Fresno County line

Always read and follow the label directions and precautionary statements for all products used in the aerial application. Observe the following directions to minimize off-site movement during aerial applications of this product. Minimizing off-site movement is the responsibility of the grower, pest control advisor and aerial applicator.

Written Directions: A written direction **must** be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24 hours prior to application. The written direction **must** state the proximity of surrounding crops and that conditions of each manufacturer's product label and this label have been satisfied.

Aerial Applicator Training and Equipment: Aerially applying this product is limited to pilots who have successfully completed a Fresno County Agricultural Commissioner and California Department of Pesticide Regulation approved training program for aerial application of herbicides. All aircraft must be inspected, critiqued in flight and certified at a Fresno County Agricultural Commisioner approved fly-in. To insure that proper rates of herbicides and adjuvants are being applied during commercial use, test and calibrate the spray equipment at appropriate intervals. Demonstration of performance at Fresno County Agricultural Commissioner approved fly-ins constitutes such documentation, or other written records showing calculations and measurement sof flight and spray parameters acceptable to the Fresno County Agricultural Commissioner.

Applications at Night: Do not aerially apply this product earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset. Doing so requires prior permission from the Fresno County Agricultural Commissioner.

Ground Application
Apply the specified rates of this product in 3 to 40 gpa of water as a broadcast spray unless otherwise specified on this label. Increase the spray volume within the rate range as density of weeds increases to ensure complete coverage. In order not to spray a fine mist, carefully select proper nozzles. Use flat fan nozzles for best results with ground application equipment. Check spray pattern for uniform distribution of spray droplets.

Handheld and Backpack Application
Apply to foliage of vegetation to be controlled. Do not spray to the point of runoff for applications made on a spray to wet basis. Use coarse sprays only. For low volume directed spray applications, spray coverage should be uniform with at least 50 percent of the foliage contacted. For best results, cover the top one-half of the plant. To ensure adequate spray coverage, spray both sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are multiple sprouts.

Selective Equipment
This product may be diluted with water and applied through shielded applicators, hooded sprayers, wiper applicators or sponge bars to weeds listed on this label. Avoid contact of herbicide with desirable vegetation as serious injury or death is likely to occur.

Adjust application equipment used above desired vegetation so that the lowest spray stream or wiper contact is at least 2 inches above the desirable vegetation. Droplets, mist, foam, or splatter of the herbicide settling on desirable vegetation is likely to result in discoloration, stunting or destruction.

Better results are obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when the height of weeds varies so that not all weeds are contacted. If this occurs, repeat treatment may be necessary.

Shielded and Hooded Applicators
A shielded or hooded applicator directs the herbicide solution onto weeds while shielding desirable vegetation from the herbicide. A hooded sprayer is a shielded sprayer in which the spray pattern is totally enclosed, including the top, sides, front, and back. Use nozzles that provide uniform coverage within the treated area. Keep shields on these sprayers adjusted to protect desirable vegetation. **Exercise extreme care to avoid contact of herbicide with desirable vegetation.**

Wiper Applicators
Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed. Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation.

Adjust application equipment used over the top of desirable vegetation so that the wiper contact point is at least 2 inches above the desirable vegetation. Better results are obtained when more of the weed is exposed to the herbicide solution. Weeds should be a minimum of 6 inches above the desirable vegetation. Adjust the applicator height to ensure adequate contact with weeds as weeds not contacted by the herbicide solution will not be affected. Poor contact may occur when weeds are growing in dense clumps, in severe weed infestations, or when weed height varies dramatically. If this occurs, repeat treatment may be necessary.

Operate this equipment at ground speeds no more than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if two applications are made in opposite directions.

Droplets, mist, foam, or splatter of the herbicide settling onto desirable vegetation may result in discoloration, stunting or destruction. Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that on sloping ground the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

Mix only the amount of solution to be used during a one-day period as reduced activity may result from use of leftover solutions. Clean wiper parts by thoroughly flushing with water immediately after using this product.

Rope or Sponge Wick Applicators
Use 25 to 70 percent solutions of this product in water.

Panel Applicators and Pressure Feed Systems
Solutions ranging from 25 to 100 percent of this product in water may be used.

This product controls the following weeds when applied as directed:

corn, volunteer
panicum, Texas
rye, common
shattercane
sicklepod
Spanish needles
starbur, bristly

This product suppresses the following weeds when applied as directed:

beggarweed, Florida
bermudagrass
dogbane, hemp
dogfennel
guineagrass
johnsongrass
milkweed
nightshade, silverleaf
pigweed, redroot
ragweed, common
ragweed, giant
smutgrass
sunflower
thistle, Canada
thistle, musk
vaseygrass
velvetleaf

Injection Systems
This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the concentrate of other products when using injection systems.

CDA Equipment
The rate of this product applied per acre by vehicle-mounted controlled droplet application (CDA) equipment must not be less than the amount specified in this label when applied by conventional broadcast equipment. For vehicle-mounted and handheld CDA equipment, apply in 2 to 15 gpa of water.

Controlled droplet application equipment produces a spray pattern that is not easily visible. Exercise extreme care to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

Application Directions

- **Conservation Reserve Program (CRP), rangeland and permanent grass pastures;**
- **forest sites, conifer plantations;**
- **airports, barrow ditches, communication transmission lines, electrical power and utility rights-of-way, fencerows, gravel pits, industrial sites, military lands, mining and drilling areas, non-irrigation ditch banks, oil pads, ornamental sties, parking lots, petroleum tank farms, pipelines, railroads, roadsides, storage areas, storm water retention areas, substations, unimproved rough turf grasses, sod or turfgrass seed farms, vacant lots and other non-crop residential areas; and**
- **natural areas (open space) for example, campgrounds, parks, prairie management, trails and trailheads, recreation areas, wildlife openings and wildlife habitat and management areas;**
- **in and around seasonally dry wetlands;**
- **including grazed areas on all of these listed sites**

This product may also be used in non-food crop sites, such as Christmas tree farms, plant nurseries, and sod or turfgrass seed farms.

Apply this product to control any weeds listed in the Weeds Controlled section of the label unless otherwise specified.

Cut Stump

This product will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50 percent solution with 50 percent water or 100 percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. The cambium area next to the bark is the most vital area to wet but be sure to apply the herbicide solution to a complete ring of exposed cambium including when the bark may have torn down the side of the stump. For best results, make applications during periods of active growth and full leaf expansion.

alder
eucalyptus
madrone
oak
pepper, Brazilian
pine, Austrian
reed, giant
saltcedar
sweetgum
tan oak
willow

Restrictions:
- Do not make cut stump applications when the roots of desirable woody brush or trees may be grafted to the roots of the cut stump. Some sprouts, stems, or trees may share the same root system.
- Adjacent trees that are of a similar age, height and spacing may indicate shared roots.

- Injury is likely to occur to non-treated stems or trees when one tree or more that shares a common root is treated.

Forestry Management

This product is for the control or partial control of woody brush, trees and herbaceous weeds in forestry. This product is also for use in preparing or establishing wildlife openings within these sites and maintaining logging roads.

See Tank Mixing section above for more information.

Note: For forestry site preparation, make sure the tank mix product is approved for use prior to planting the desired species. Observe planting interval restrictions.

Note: If tank mixing with a product containing triclopyr amine, such as Garlon® 3A herbicide or Capstone, ensure that the triclopyr amine product is well mixed with at least 75 percent of the total spray volume before adding this product to the spray tank to avoid incompatibility.Site Preparation
In forestry sites, use this product in site preparation prior to planting any tree species including Christmas trees, eucalyptus, hybrid tree cultivars, and establishing silvicultural nursery sites.

For optimum results, use 4 – 8 quarts of this product per acre. Use a higher rate in the rate range for control or partial control of woody brush, trees and hard to control perennial herbaceous weeds. For best results, apply to actively growing woody brush and trees after full leaf expansion and before fall color and leaf drop. Use increased rates within the rate range to control perennial herbaceous weeds.
Use a lower rate in the rate range to control annual herbaceous weeds. Apply to foliage of actively growing annual herbaceous weeds anytime after emergence.

Restrictions:
- Do not apply this product as an over the top broadcast spray for forestry conifer or hardwood release unless otherwise specified on this label.

Conifer Release, Mid-Rotation Conifer Release, and Hardwood Release
Apply this product as a directed spray, with selective equipment, and as an individual plant treatment for woody and herbaceous weeds in conifer plantations and hardwood sites, Christmas tree plantations and silvicultural nurseries for conifer release or mid-rotation release applications around conifers and hardwoods.

Make applications using application techniques that prevent or minimize direct contact to the foliage of crop trees (including in stands of pine, other conifers, or hardwood). Avoid contact of spray drift, mist or drips with foliage, green bark or non-woody surface roots of desirable plant species. Use directed sprays and ground equipment with nozzles oriented to target only undesirable understory vegetation below the crop tree canopy.

Mid-Rotation Conifer Release and Spot Treatments for Crop Tree Release and Timber Stand Improvement
Apply this product as a ground broadcast or directed spray application for mid-rotation release applications under the canopy of pines, other conifers and hardwoods. Make applications using application techniques that prevent or minimize direct contact to the foliage of crop trees (including in stands of pine, other conifers, or hardwoods). Use directed sprays and ground equipment with nozzles oriented to target only undesirable understory vegetation below the crop tree canopy. When making spot applications for woody and herbaceous weeds, do not allow spray to contact the foliage of desirable crop trees.

Unimproved rough turf and Ornamental Sites

See Tank Mixing section above for more information.

Note: If tank mixing with a product containing triclopyr amine, such as Garlon® 3A herbicide or Capstone, ensure that the triclopyr amine product is well mixed with at least 75 percent of the total spray volume before adding this product to the spray tank to avoid incompatibility.

Spot Treatment, Trim and Edge, and Bareground (can be used on any site on this label)
This product may be on any industrial turfgrass and ornamental site listed on the label for spot treatment of unwanted vegetation, for trim and edge application around objects, and to eliminate unwanted weeds before a construction project begins or asphalt or other material is laid for a road. This product may be used prior to planting an area to ornamentals, flowers,or turfgrass (sod or seed) to remove unwanted weeds growing in established shrub beds or ornamental plantings.

To maintain bareground, repeated applications of this product may be used.

This product provides control of emerged annual weeds and control or partial control of emerged perennial weeds, woody brush and trees when applied in a tank mix to bareground.

See Tank Mixing section above for more information.

Note: If tank mixing with a product containing triclopyr amine, such as Garlon® 3A herbicide or Capstone, ensure that the triclopyr amine product is well mixed with at least 75 percent of the total spray volume before adding this product to the spray tank to avoid incompatibility.

To control or partially control the following perennial weeds, apply 1.5 to 3 pints of this product plus 2 to 4 oz of Oust XP per acre.

bahiagrass	fescue, tall
bermudagrass	johnsongrass
broomsedge	poorjoe
dallisgrass	quackgrass
dock, curly	vaseygrass
dogfennel	vervain, blue

Chemical Mowing
This product suppresses perennial and annual grasses listed in this section to serve as a substitute for mowing.

Perennials: Apply this product at a rate of 6 fl oz per acre to suppress tall fescue, fine fescue, orchardgrass, quackgrass or reed canarygrass covers. Use 4.6 fl oz of this product per acre for suppression of Kentucky bluegrass. Apply treatments in 10 to 40 gpa. Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

Annuals: For growth suppression of annual ryegrass, wild barley and wild oats growing in coarse turfgrass on roadsides or other industrial areas, apply 3 to 3.75 fl oz of this product in 10 to 40 gpa. Apply when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

Dormant Bermudagrass and Bahiagrass: This product may be used to control or partially control many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahiagrass. Treat only when turfgrass is dormant and prior to spring greenup.

Apply 6 fl oz to 1.5 quarts of this product per acre in 10 to 40 gpa of water. Use only in areas where bermudagrass or bahiagrass are desirable groundcovers and where some temporary injury or discoloration can be tolerated. For best control of winter annuals, apply when plants are less than 6 inches tall in an early growth stage, and after most of them have germinated. For best control of tall fescue, apply when the tall fescue is at or beyond the 4 to 6 leaf stage.

Treatments in excess of 12 fl oz of this product per acre may result in injury or delayed greenup in highly maintained areas, such as golf courses and lawns.

Restrictions:
Do not apply tank mixes of this product plus Oust XP in highly maintained turfgrass areas where grass selectively is desired.

Actively Growing Bermudagrass: This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Injury of some bermudagrass could occur from applying this product, but the bermudagrass will recover under moist conditions after the effects of the product wear off. Use only in areas where some temporary injury or discoloration can be tolerated.

Apply 12 to 35 fl oz of this product in 10 to 40 gpa to control or partially control many annual and perennial weeds in order to effectively release actively growing bermudagrass. Use a lower rate in the rate range to control weeds less than 6 inches tall (or runner length). Use a higher rate in the rate range as weeds increase in size or as the flower or seed head forms. This product provides partial control of the following perennial species in actively growing bermudagrass.

bahiagrass	johnsongrass
bluestem, silver	trumpetcreeper
fescue, tall	vaseygrass

Restrictions:
- Do not apply more than 12 fl oz of this product per acre in highly maintained turfgrass areas where grass selectively is desired.

Tank Mixes: Tank mix this product with Outrider or Oust XP for a broader weed control spectrum in actively growing bermudagrass. Apply the tank mixes only on well established bermudagrass where some temporary injury or discoloration can be tolerated.

Apply 6 fl oz to 1.5 pints of this product per acre with 0.75 to 1.33 oz of Outrider to control or partially control johnsongrass and other weeds listed on the Outrider label. Use the higher rate in the rate range of both products to control annual or perennial weeds more than 6 inches tall.

Apply 12 fl oz to 1.5 pints of this product per acre with 1 to 2 oz of Oust XP for enhanced control of weeds listed on the Oust XP label. Use the lower rate in the rate range to control annual weeds less than 6 inches tall (or runner length) listed on the labels. Use a higher rate in the rate

range as annual weeds increase in size and as the flower or seed head forms. This tank mix provides partial control of the following perennial weeds in actively growing bermudagrass.

bahiagrass
blackberry
bluestem, silver
broomsedge
dallisgrass
dewberry
dock, curly
dogfennel
fescue, tall
johnsongrass
poorjoe
raspberry
trumpetcreeper
vaseygrass
vervain, blue

Restrictions:
- Do not apply tank mixtures of this product plus Oust XP in highly maintained bermudagrass where grass selectively is desired.

Actively Growing Bahiagrass: To suppress vegetative growth and seed head inhibition of bahiagrass for approximately 45 days, apply 4.6 fl oz of this product in 10 to 40 gpa of water. Apply one to two weeks after full greenup or after mowing to a uniform height of 3 to 4 inches and prior to seed head emergence.

To suppress grown of bahiagrass up to 120 days, apply 3.5 fl oz of this product per acre and follow it with an application of 2 to 3.5 fl oz per acre approximately 45 days later. Do not make more than two growth suppression applications per year unless otherwise directed.

Tank Mixes: Tank mix this product with Outrider or Oust XP for a broader week control spectrum in actively growing bermudagrass. Apply the tank mixes only on well established bahiagrass where some temporary injury or discoloration can be tolerated.

Apply 4.6 fl oz of this product per acre with 0.75 to 2 oz of Outrider per acre to controll or partially control johnsongrass and other weeds listed on the Outrider label. Use the higher rate in the rate range for Outrider to control annual and perennial weeds more than 6 inches tall.

Apply 4.6 fl oz of this product per acre with 0.25 oz of Oust XP per acre for enhanced control of weeds listed on the Oust XP label in actively growing bahiagrass one to two weeks following an initial spring mowing. Do not apply this tank mix more than once per year.

Turfgrass Renovation, Seed, or Sod Production
This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. When repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm season turfgrass, such as bermudagrass, summer or fall applications provide the best control. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Desirable turfgrass may be planted following the above procedures.

Handheld equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Use broadcast or handheld equipment to control sod remnants or other unwanted vegetation after sod is harvested.

Restrictions:
- Do not disturb soil or underground plant parts before treatment.
- Delay tillage or renovation techniques, such as vertical mowing, coring or slicing, for seven days after application to allow translocation into underground plant parts.
- If the application rate used is 2 quarts or less per acre, no waiting period is required between treatment and feeding or grazing livestock.
- If the application rate used is more than 2 quarts per acre, remove livestock before applying this product and wait 8 weeks after applying before resuming grazing or harvesting.

Glyphosate-Resistant Horseweed
(Not for Use in California)
Use this product to control and manage glyphosate-resistant horseweed (marestail, *Conyza canadensis*). Apply 1.5 pints of this product per acre before marestail is more than 6 inches in height. Make applications when horseweed is still in the rosette stage of growth to enhance control.

See Tank Mixing section above for more information.

Natural Areas and Wildlife Habitat Management

See Tank Mixing section above for more information.

Habitat Restoration and Management
This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas, including rangeland and wildlife refuges. Apply to allow recovery of native plant species, prior to planting desirable native species, and for similar broad spectrum vegetation control requirements. Apply spot treatments to selectively remove unwanted plants for habitat maintenance and enhancement.

Wildlife Food Plots
This product may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage to allow translocation into underground plant parts.

Hollow Stem Injection

Apply this product through handheld injection devices that deliver the specified amount of this product into targeted hollow stem plants growing in any site listed on this label. To control the following hollow stem plants, follow the use directions below:

Target Plants		Use Directions
Common Name	**Scientific Name**	
castorbean	*Ricinus communis*	Inject 4 mL of this product per plant into the lower portion of the main stem
hemlock, poison	*Conium maculatum*	Inject one leaf cane per plant, 10 to 12 inches above the root crown, with 5 mL of a 5 percent by volume solution of this product.
hogweed, giant	*Hercleum mantegazzianum*	Inject one leaf cane per plant 12 inches above the root crown with 5 mL of a 5 percent by volume solution of this product.
horsetail, field	*Equisetum arvense*	Inject one segment above the root crown with 0.5 mL of this product per stem using a low volume syringe capable of accurately delivering this amount of product.
knotweed, bohemian and other species	*Polygonum bohemicum*	Inject 5 mL of this product per stem between the second and third internode.
knotweed, giant	*Polygonum sachalinense*	
knotweed, Japanese	*Polygonum cuspidatum*	
reed, giant	*Arundo donax*	Inject 6 mL of this product per stem between the second and third internode.
thistle, Canada	*Circisum arvense*	Cut 8 to 9 of the tallest plants at bud stage in a clump with clippers. Use a cavity needle pushed into the stem center and then slowly removed as 0.5 mL of this product per stem is injected into the stem.

Restrictions:
- Do not apply more than a total of 2 gallons of this product per acre for all treatments combined. At 5 mL per stem, 2 gallons will treat approximately 1300 stems per acre.

Injection and Frill (Woody Brush and Trees)

This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment that penetrates into the living tissue. Apply the equivalent of 1 mL (0.04 fl oz) of this product per each two to three inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50 to 100 percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Do not make any applications that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100 percent undiluted concentration of this product. For best results, apply during periods of active growth and after full leaf expansion. This product controls many species; some of these species are listed below.

Control	Partial Control
oak	black gum
poplar	dogwood
sweetgum	hickory
sycamore	maple, red

Non-Food Tree, Shrub, or Vine Production Sites
(Not for Use in California)

Types of Applications: Site preparation, post-directed trim and edge, wiper application

This product may be used for general weed control prior to the planting of and around established ornamentals or any woody tree, shrub, or vine species, including arborvitae, azalea, boxwood, crabapple, eucalyptus, euonymus, fir, Douglas- fir, jojoba, hollies, lilac, magnolia, maple, oak, poplar, privet, pine, spruce, and yew, growing in plant nurseries, on Christmas tree farms, or on other non-food tree production sites.

Use this product to control weeds growing in and around greenhouses and shadehouses. During application, desirable vegetation must not be present. Air circulation fans must be turned off until after the application has dried.

Do not use this product as an over the top broadcast spray in ornamentals and Christmas trees unless otherwise directed. Take care to avoid contact of spray, drift, or mist with foliage or green bark of desirable ornamental species.

See Tank Mixing section above for more information.

Site Preparation
Use this product prior to planting any tree, shrub, or vine, including Christmas tree species, in a nursery or production setting.

Post-Directed Trim and Edge
Use this product as a post-directed spray around established woody ornamental species or to trim and edge around trees, buildings, sidewalks, roads, potted plants, and other objects in a production setting. Protect desirable plants from the spray solution by using shields or coverings made of cardboard or other impermeable material.

Wiper Application
Use this product through wick or other suitable wiper applicators to control or partially control undesirable vegetation around established trees, shrubs, or vines. See Selective Equipment section of this label for further information about the proper use of wiper applicators.

Parks, Recreational, and Residential Areas

Use this product in parks, recreational, and residential areas. Apply it with any application equipment described in this label. Use this product to trim and edge around trees, fences, paths, around buildings, sidewalks, and other objects in these areas. This product may be used for spot treatment of unwanted vegetation, eliminate unwanted weeds growing in established shrub beds or ornamental plantings, and prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or other road material, or beginning construction projects.

See Tank Mixing section above for more information.

Poplar (*Populus* spp.) Production

Types of Applications: Preplant, in-crop, wiper applicator

Preplant
This product is for use prior to planting *Populus* species, including hybrid poplars and hybrid cottonwoods.

In-Crop
Use a 1.5 percent spray solution as a spray to wet application for the control of undesirable woody brush and trees. To control herbaceous weeds, use a 0.75 to 1.5 percent solution. Avoid contact of spray, drift, or mist with foliage, green bark or non-woody surface roots of poplar trees.

Wiper Applicator
This product may be used through wick or other suitable applicators for control or partial control of grass and broadleaf weeds listed on the label.

For wick applicators, mix 2.75 quarts of this product with 2 gallons of water to make a 25 percent solution. For wiper systems that can handle thicker solutions, such as force fed systems, a solution containing 25 to 100 percent of this product may be used.

For best results, allow the herbicide solution to contact the maximum amount of leaf surface. As weed density increases, decrease equipment speed to allow sufficient herbicide to flow to wet all surfaces contacted. Weeds not contacted will be unaffected.

To avoid injury or death of desirable plants, prevent contact of herbicide with non-target vegetation, including foliage, green stems, exposed non-woody roots or fruit.

Railroads

All of the instructions in the Industrial Sites and Unimproved rough turf and Ornamental Sites sections apply to railroads.

Bareground, Ballast and Shoulders, Crossings, and Spot Treatment
Use this product to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used as weeds emerge to maintain bare ground. Use this product to control tall growing weeds to improve line of sight at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, use up to 80 gpa of spray solution.

See Tank Mixing section above for more information.

Note: If tank mixing with a product containing triclopyr amine, such as Garlon® 3A herbicide or Capstone, ensure that the triclopyr amine product is well mixed with at least 75 percent of the total spray volume before adding this product to the spray tank to avoid incompatibility.

Brush Control
Use this product to control woody brush and trees on railroad rights-of-way. Apply 3 quarts to 2 gallons of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Applications up to 80 gpa of spray solution may be used. Apply a 3/4 to 1.5 percent solution of this product when using high volume spray to wet applications. Apply a 4 to 7 percent solution of this product when using low volume directed sprays for spot treatment.

See Tank Mixing section above for more information.

Note: If tank mixing with Garlon® 3A herbicide, ensure that Garlon 3A is well mixed with at least 75 percent of the total spray volume before adding this product to the spray tank to avoid incompatibility.

Note: If tank mixing with a product containing triclopyr amine, such as Garlon® 3A herbicide or Capstone, ensure that the triclopyr amine product is well mixed with at least 75 percent of the total spray volume before adding this product to the spray tank to avoid incompatibility.

Pasture Management

Types of Applications: Preplant, preemergence, pasture renovation, spot treatment, wiper applicator, selective weed control in dormant pastures

Preplant, Preemergence, Pasture Renovation
Apply this product to control weeds prior to planting or prior to the emergence of forage grasses. This product may also be applied postemergence to any pasture grass (other than food crops in the *Gramineae* family), including bahiagrass, bermudagrass, bluegrass, brome, fescue, guineagrass, kikuyugrass, orchardgrass, pangola grass, ryegrass, timothy, and wheatgrass, to control these species prior to replanting.

Restrictions:
- If the application rate used is 2.25 quarts or less per acre, no waiting period is required between treatment and feeding or grazing livestock.
- If the application rate used is more than 2.25 quarts per acre, remove livestock before applying this product and wait 8 weeks after applying before resuming grazing or harvesting.

Spot Treatment and Wiper Applicator
To control tall weeds, apply this product in pastures as a spot treatment or over the top of desirable grasses using a wiper applicator. Repeat applications may be made in the same area every 30 days.

Restrictions:
- The entire pasture or any portion of it may be treated when using 2.25 quarts or less of this product per acre for spot treatments or wiper applications.
- No more than 10 percent of the total pasture may be treated at any one time when using more than 2.25 quarts of this product per acre for spot treatments or wiper applications.
- To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting for feed.

Selective Weed Control in Dormant Pastures
Apply this product to dormant pastures to suppress competitive growth and seed production of annual weeds and undesirable vegetation. Apply 9 to 12 fl oz of this product per acre by broadcast application equipment. Apply in early spring before desirable perennial grasses break dormancy and initiate green growth, or in late fall after desirable perennial grasses have reached dormancy.

Restrictions:
- If this product is applied when plants are not dormant, some stunting of perennial grasses will occur.
- Using a higher rate in the rate range could cause stand reduction.
- Do not apply more than a total of 2.25 quarts of this product per acre per year to pasture grasses except for renovation use.

There is no waiting period between application and grazing or harvesting

Rangelands

Apply 2.5 lb ai per acre to control or suppress many annual weeds growing in perennial cool and warm season grass rangelands, pastures, and grassy industrial sites. Preventing weed seed production is critical to the successful control of annual grassy weeds invading these perennial grass sites. Eliminate most of the viable seeds with follow up applications in sequential years. Delay grazing of treated areas to encourage growth of desirable perennials. Allowing desirable perennials to flower and reseed in the treated area will encourage successful transition.

***Bromus*:** Use this product to control or suppress downy brome (*Bromus tectorum*), Japanese brome (*Bromus japonicus*), soft chess (*Bromus mollis*), cheatgrass (*Bromus secalinus*), cereal rye and jointed goatgrass found in rangelands, pastures and grassy industrial sites. Apply 6 to 12 fl oz of this product per acre as a broadcast treatment.

For best results, coincide treatments with early seedhead emergence of the most mature plants. Delaying the application until this growth stage maximizes the emergence of other weedy grass flushes. Make applications to the same site each year until seed banks are depleted and the desirable perennial grasses become established on the site.

Medusahead: Apply 12 fl oz of this product per acre to control or suppress medusahead at the 3-leaf stage when plants are actively growing. Delaying applications beyond this stage results in reduced or unacceptable control. Repeat applications in subsequent years to eliminate the seedbank before reestablishing desirable perennial grasses. Apply in the fall or spring.

Apply by ground or air. Make aerial applications for these uses with fixed wing or helicopter equipment. For aerial applications, apply in 2 to 10 gpa of water. For ground applications, apply in 10 to 20 gpa of water.

Spot Treatment Wiper Application
Apply this product in rangeland, pastures, or industrial sites as a spot treatment or over the top of desirable grasses using wiper applicators to control tall weeds. Make repeat applications in the same area at 30-day intervals.

Restrictions:
- The entire site or any portion of it may be treated when using 2.25 quarts or less of this product per acre for spot treatments or wiper applications.
- No more than 10 percent of the total site may be treated at any one time when using more than 2.25 quarts of this product per acre for spot treatments or wiper applications.
- To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting for feed.

Roadsides

All of the instructions in the Industrial sites and Unimproved rough turf and Ornamental Sites section apply to roadsides.

See Tank Mixing section above for more information.

Note: If tank mixing with a product containing triclopyr amine, such as Garlon® 3A herbicide or Capstone, ensure that the triclopyr amine product is well mixed with at least 75 percent of the total spray volume before adding this product to the spray tank to avoid incompatibility.

Roadside Shoulder Treatments
Use this product on road shoulders. Apply it with boom sprayers, shielded boom sprayers, high volume off-center nozzles, handheld equipment, and similar equipment.

Guardrails and Other Obstacles to Mowing
Use this product to control weeds growing under guardrails and around signposts and other objects along the roadside.

Spot Treatment
Use this product as a spot treatment to control unwanted vegetation growing along roadsides.

Release of Bermudagrass or Bahiagrass
Dormant Applications: Use this product to control or partially control many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. Treat along roadsides only when turfgrass is dormant and prior to spring greenup. See Unimproved rough turf Management section for use directions to control weeds in dormant bermudagrass and bahiagrass.

Actively Growing Bermudagrass
Use this product to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. See Unimproved rough turf Management section for use directions to control weeds in actively growing bermudagrass.

Actively Growing Bahiagrass
Use this product for suppression of vegetable growth and seedhead inhibition of bahiagrass, and to control or partially control many annual and perennial weeds for effective release of actively growing bahiagrass along roadsides. See Turfgrass Management section for use directions to control weeds in actively growing bahiagrass.

Turfgrass Seed and Sod Production

Types of Applications: Preplant, at-planting, preemergence, removal of established stands, renovation, site preparation, shielded sprayer, wiper applicator, spot treatment, creating rows in annual ryegrass

Preplant, At-Planting, Preemergence, Removal of Established Stands, Renovation, and Site Preparation
Applying this product eliminates most existing vegetation for the purpose of renovating turfgrass or forage grass seed areas, and for establishing turfgrass grown for sod. Using this product also destroys any remaining undesired grass vegetation when a production field is converted to an alternate crop or species. This product must be applied before, during, or after planting or for renovation purposes, and, to avoid crop injury, must be applied prior to crop emergence.

For the maximum control of existing vegetation, delay planting in order to determine if any regrowth from underground plant parts occur. If existing vegetation is growing under mowed turfgrass management, apply this product after eliminating at least one regular mowing. This allows sufficient turfgrass growth for good interception of the herbicide spray. If a repeat application is necessary, there must be sufficient regrowth prior to reapplication.

For warm season turfgrass, such as bermudagrass, a summer or fall application provides the best control. After the sod is harvested, broadcast application equipment may be used to control sod remnants or other unwanted vegetation. Up to 1 gallon per acre may be used to totally remove established stands of tough to kill turfgrass species.

Restrictions:
- Do not disturb soil or underground plant parts before application.
- Delay tillage or renovation techniques, such as vertical mowing, coring, and slicing, for 7 days after application to allow translocation of this product into underground plant parts.
- If the application rate used is 2 quarts or less per acre, no waiting period is required between treatment and feeding or grazing livestock.
- If the application rate used is more than 2 quarts per acre, remove livestock before applying this product and wait 8 weeks after applying before resuming grazing or harvesting.

Shielded Sprayer
Apply 1.5 pints to 2 quarts of this product in 10 to 20 gpa to control weeds growing between turfgrass seed rows. Planting in uniform, straight rows aids this type of application. For best results, apply when the turfgrass seed plants are small enough to easily pass by the protective shields of the sprayer. Any contact of this product with desirable vegetation may result in discoloration, stunting, or destruction. Any such damage is the sole responsibility of the applicator.

Wiper Applicator
Apply this product over the top of desirable turfgrass using a wiper applicator to control tall weeds. Any contact of this product with desirable vegetation may result in discoloration, stunting, or destruction. Any such damage is the sole responsibility of the applicator.

Spot Treatment
Apply this product in a 1 percent solution with a handheld sprayer to control weeds within established vegetation prior to heading of turfgrass grown for seed. After sod is harvested, handheld equipment may be used to control sod remnants or other unwanted vegetation. Spraying this product on turfgrass will kill it along with the weeds. Use care to not spray or allow the spray to drift outside of the target area in order to avoid unwanted turfgrass injury or destruction.

Creating Rows in Annual Ryegrass
Apply 12 fl oz to 1.5 pints of this product per acre to create rows in annual ryegrass. For best results, apply before ryegrass reaches 6 inches in height. Use a higher rate in the rate range when ryegrass is more than 6 inches tall.

Set the nozzle height to establish the desired row spacing. For best results, use low pressure nozzles or drop nozzles designed to target the application over a narrow band. Use care to not spray or allow the spray to drift outside of the target area in order to avoid unwanted turfgrass destruction.

Utility Sites

Use this product along electrical power, pipeline, and telephone rights-of-way, and other sites associated with these utility rights-of-way, such as substations, access roads, railroads, or similar rights-of-way that run in conjunction with utilities.

Use this product for bare ground, trim and edge around objects, spot treatment of unwanted vegetation, and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. Use this

product prior to planting a utility site to ornamentals, flowers, turfgrass (sod or seed), or beginning construction projects. As weeds emerge, make a repeat application of this product to maintain bare ground.

Use this product in preparing or establishing wildlife openings within these sites, maintaining access roads, and side trimming along utility rights-of way. To control herbaceous weeds, use a lower rate in the rate range. Use a higher rate in the rate range to control dense stands or tough to control woody brush and trees.

See Tank Mixing section above for more information.

Note: If tank mixing with a product containing triclopyr amine, such as Garlon® 3A herbicide or Capstone, ensure that the triclopyr amine product is well mixed with at least 75 percent of the total spray volume before adding this product to the spray tank to avoid incompatibility.

Weeds

Use a higher rate in the rate range when weed growth is heavy, dense, or growing in an undisturbed (non-cultivated) area. The performance of this product may be reduced when applying to weeds heavily covered with dust. If weeds have been mowed, grazed, or cut, allow regrowth to occur before applying this product.

If a handheld sprayer is used to apply this product on a spray to wet technique, ensure that the spray coverage is uniform and complete, and at least 50 percent of the foliage, or the top one-half of the plant, is sprayed. Spray both sides of large or tall weeds, thick or dense foliage, or multiple sprouts in order to ensure complete coverage.

After applying this product, if the soil must be tilled or the weeds mowed, wait 7 days before tilling, mowing, or removing residual vegetation to allow translocation of this product into underground plant parts.

Apply 1 to 1.75 gallons of this product per acre for enhanced results to control tough to control perennial weeds, woody brush and trees, plants growing under stressed conditions, or in areas of dense vegetation.

See Tank Mixing section above for more information.

Note: If tank mixing with a product containing triclopyr amine, such as Garlon® 3A herbicide or Capstone, ensure that the triclopyr amine product is well mixed with at least 75 percent of the total spray volume before adding this product to the spray tank to avoid incompatibility.

Annual Weeds

Apply 1.5 pints of this product per acre if weeds are less than 6 inches in height or runner length. Use 1.25 to 3 quarts of this product per acre if weeds are more than 6 inches in height or runner length, or when weeds are growing under stressed conditions. Use a higher rate in the rate range for tough to control species regardless of the size of the weed at the time of application. Treat tough to control weeds early when they are relatively small.

Apply a 0.4 percent solution of this product as a spray to wet application to weeds less than 6 inches in height or runner length. Use a 0.7 to 1.5 percent solution for annual weeds more than 6 inches tall or for any weeds growing under stressed conditions. Use the higher concentration for tough to control species or for weeds more than 24 inches tall. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds.

Use a 4 to 7 percent solution of this product for low volume directed spray applications.

Rate Table

Weed Species

annoda, spurred
barley
barnyardgrass
bassia, fivehook
bittercress
bluegrass, annual
bluegrass, bulbous
brome, downy
brome, Japanese
browntop panicum
buttercup
Carolina foxtail
Carolina geranium
castorbean
cheatgrass
cheeseweed (*Malva parviflora*)
chervil
chickweed
cocklebur
copperleaf, hophornbeam
corn
corn speedwell
crabgrass
dwarfdandelion
eastern mannagrass
eclipta
fall panicum
false dandelion
falseflax, smallseed
fiddleneck
field pennycress
filaree
fleabane, annual
fleabane, hairy (*Conyza bonariensis*)
fleabane, rough
Florida pusley
foxtail
goatgrass, jointed
goosegrass
grain sorghum (milo)
groundsel, common
hemp sesbania
henbit
horseweed/marestail (*Conyza canadensis*)
itchgrass
johnsongrass (seedling)
junglerice
knotweed
kochia
lambsquarters
little barley
London rocket
mayweed
medusahead
morningglory (*Ipomoea* spp.)
mustard, blue
mustard, tansy
mustard, tumble
mustard, wild
nightshade, black
oats
pigweed
plains/tickseed coreopsis
prickly lettuce
puncturevine
purslane, common
ragweed, common
ragweed, giant
red rice
Russian thistle
rye
ryegrass
sandbur, field
shattercane
shepherd's-purse
sicklepod
signalgrass, broadleaf
smartweed, ladysthumb
smartweed, Pennsylvania
sowthistle, annual
Spanish needles
speedwell, purslane
sprangletop
spurge, annual
spurge, prostrate
spurge, spotted
spurry, umbrella
stinkgrass
sunflower
teaweed/prickly sida
Texas panicum
velvetleaf
Virginia copperleaf
Virginia pepperweed
wheat
wild oats
witchgrass
woolly cupgrass
yellow rocket

Perennial Weeds

Best results are obtained when perennial weeds are treated after they reach the reproductive stage of growth (seedhead initiation in grasses and bud formation in broadleaves). Best results are obtained when non-flowering plants are treated when they reach a mature stage of growth. In many situations, applications are required prior to these growth stages. Under these conditions, use a higher rate in the rate range.

When using spray to wet treatments with handheld equipment, ensure thorough coverage of the plant. For best results, use a 1.5 percent solution on harder to control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

Use a 4 to 7 percent solution of this product in low volume directed spray applications.

Rate Table

Weed Species	Rate (pt/acre)	Handheld (% Solution)
alfalfa	1.5 - 3	1.5
partial control		
alligatorweed	6	1
partial control		
anise (fennel)	1.5 – 6.5	1 – 1.5
bahiagrass	4.5 - 7.5	1.5
beechgrass, European (*Ammophila arenariai*)	--	3.5
bentgrass	2.25	1.5
partial control		
bermudagrass	4.5 - 7.5	1.5
bermudagrass, water (knotgrass)	1.5	
bindweed, field	0.75 - 7.5	
bluegrass, Kentucky	3	
blueweed, Texas	4.5 - 7.5	
brackenfern	4.5 – 6	1
bromegrass, smooth	1.5 – 3	1.5
bursage, woolly-leaf	--	
canarygrass, reed	3 - 4.5	
cattail	4.5 - 7.5	
clover, red, white		
cogongrass		
dallisgrass		
dandelion		
dock, curly		
dogbane, hemp	6	
fescue (except tall)	4.5 - 7.5	
fescue, tall	1.5 - 4.5	

Rate Table (Cont.)

Weed Species	Rate (pt/acre)	Handheld (% Solution)
German ivy	1.75 – 3.25	1 – 1.5
guineagrass	4.5	1
horsenettle	4.5 - 7.5	1.5
horseradish	6	
iceplant	1.75	1.5 – 2
Japanese knotweed	4.5	2
Jerusalem artichoke	4.5 - 7.5	1.5
johnsongrass	0.75 - 4.5	1
kikuyugrass	3 - 4.5	1.5
knapweed	6	
lantana	-	1
lespedeza	4.5 - 7.5	1.5
milkweed, common	4.5	
muhly, wirestem	1.5 – 3	
mullein, common	4.5 - 7.5	
napiergrass		
nightshade, silverleaf	3	
nutsedge, purple, yellow	0.75 - 4.5	1 – 1.5
orchardgrass	1.5 – 3	1.5
oriental bittersweet	4.5	1.5
pampasgrass	4.5 – 7.5	1 - 1.5
paragrass	4.5 - 7.5	1.5
pepperweed, perennial	5.4	1.5
phragmites	4.5 - 7.5	1 – 1.5
partial control		
poison hemlock	1.5 – 5.4	1 – 1.5
quackgrass	1.5 - 4.5	1.5
redvine	1.25 – 3	
partial control		
reed, giant	6 – 7.5	1.5
ryegrass, perennial	1.5 - 4.5	1
smartweed, swamp	4.5 - 7.5	1.5
sowthistle, perennial	3 - 4.5	
spurge, leafy	--	
partial control		
starthistle, yellow	3	1.5
sweet potato, wild	--	
partial control		
thistle, artichoke	1.5 – 4.5	1 - 1.5
thistle, Canada	3 - 4.5	1.5
timothy	3 - 4.5	
torpedograss	6 - 7.5	
partial control		
trumpetcreeper	3	1.5
partial control		
vaseygrass	4.5 - 7.5	1.5
velvetgrass		
wheatgrass, western	3 - 4.5	1.5

Tank Mixtures for Improved Control of Bentgrass (*Agrostis* spp.) (Not for Use in California)

For improved control of bentgrass (*Agrostis* spp.), the following products may be tank mixed with this product: Envoy, Fusion, Fusilade II, Vantage. When tank mixing products, read and carefully observe label directions, precautionary statements and all information on the labels of each product in the mixture. Refer to each product label for the approved use sites.

Dry ammonium sulfate, at 1 to 2 percent by weight, may also be added to the spray solution. The equivalent rate of ammonium sulfate in a liquid formulation may also be used. Completely dissolve the ammonium sulfate in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

Broadcast Application: Apply 2 to 2.5 quarts of this product per acre plus

- 34 fl oz of Envoy per acre in 20 to 40 gpa of spray solution.
- 1.5 pints of Fusilade II per acre in 20 to 40 gpa of spray solution.
- 3.75 pints of Vantage per acre in 20 to 40 gpa of spray solution.
- 9 fl oz of Fusion per acre in 20 to 40 gpa of spray solution.

In the event of incomplete control, re-treatment may be necessary.

Spot Treatment: Mix 2 fl oz of this product with

- 1.3 fl oz of Envoy in 1 gallon of water and spray to wet.
- 0.75 fl oz of Fusilade II in 1 gallon of water and spray to wet.
- 3 fl oz of Vantage in 1 gallon of water and spray to wet.
- 0.25 fl oz of Fusion in 1 gallon of water and spray to wet.

Attention: Avoid drift. Use extreme care when applying this product to prevent injury to desirable plants and crops.

Woody Brush and Trees

Apply this product after full leaf expansion unless otherwise directed. Use the higher rate in the rate range for larger plants and/or dense areas of growth. On vines, use the higher rate in the rate range for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Use a 1.5 percent solution when applying this product using a spray to wet technique with a handheld sprayer on harder to control woody brush and trees.

Apply a 4 to 7 percent solution of this product for low volume directed spray applications.

Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost. Herbicidal symptoms might not appear prior to frost or senescence following a fall application.

Repeat treatments may be necessary to control plants regenerating from underground parts or seed.

See Tank Mixing section above for more information.

Note: If tank mixing with a product containing triclopyr amine, such as Garlon® 3A herbicide or Capstone, ensure that the triclopyr amine product is well mixed with at least 75 percent of the total spray volume before adding this product to the spray tank to avoid incompatibility.

Rate Table

Weed Species	Rate (pt/acre)	Handheld Spray to Wet (% Solution)
alder	4.5 – 6	1
ash	3 - 7.5	1 – 1.5
partial control		
aspen, quaking	3 - 4.5	1
bearmat (bearclover)	3 - 7.5	1 – 1.5
beech		
partial control		
birch	3 – 4.5	1
blackberry	4.5 – 6	
blackgum	3 - 7.5	
bracken		
broom, French, Scotch	1.75– 7.5	1 - 1.5
buckwheat, California	1.75 - 6	
partial control		
cascara	3 - 7.5	1 - 1.5
partial control		
catsclaw	--	1
partial control		
ceanothus	3 - 7.5	1 – 1.5
partial control		
chamise	1.75 – 7.5	1
partial control		
cherry, bitter, black, pin	3 - 4.5	1
coyote brush	4.5 - 6	1 - 1.5

Rate Table (Cont.)

Weed Species	Rate (pt/acre)	Handheld Spray to Wet (% Solution)
deerweed	1.75 – 4.25	1
dogwood	3 - 7.5	1 – 1.5
partial control		
elderberry	3 - 4	1
elm	3 - 7.5	1 – 1.5
partial control		
eucalyptus	--	1.5
gorse	3 - 7.5	1 – 1.5
partial control		
hasardia	1.75 - 6	1 – 1.5
partial control		
hawthorn	3 - 4.5	1
hazel		
hickory	3 - 7.5	1 – 1.5
partial control		
honeysuckle	3 - 6	1
hornbeam, American	3 - 7.5	1 – 1.5
partial control		
kudzu	6 – 7.5	1.5
locust, black	3 - 6	1 – 1.5
partial control		
madrone resprouts	--	1.5
partial control		
manzanita	3 - 7.5	1 – 1.5
partial control		
maple, red	3 - 6	1
maple, sugar	--	
monkey flower	1.75 - 6	1 – 1.5
partial control		
oak, black, white	3 - 6	1 – 1.5
partial control		
oak, northern, pin	1.75 - 6	1
oak, post	4.5 - 6	
oak, scrub	1.75 - 6	
oak, southern red	3 - 4.5	1
peppertree, Brazilian (Florida holly)	3 - 7.5	1 – 1.5
for suppression		
persimmon	3 - 7.5	1 – 1.5
partial control		
pine	3 - 7.5	1 – 1.5
poison ivy/poison oak	6 - 7.5	1.5
poplar, yellow	3 - 7.5	1 – 1.5
partial control		
redbud, eastern	3 - 7.5	1 – 1.5
rose, multiflora	3	1
Russian olive	3 - 7.5	1 – 1.5
partial control		
sage, black	1.75 - 6	1
sage, white	3 - 7.5	1 – 1.5
partial control		
sagebrush, California	3 - 6	1
salmonberry	3 – 4.5	
saltcedar	3 - 7.5	1 – 1.5
partial control		

Rate Table (Cont.)

Weed Species	Rate (pt/acre)	Handheld Spray to Wet (% Solution)
sassafras sourwood	3 - 7.5	1 – 1.5
partial control		
sumac, laurel, poison, smooth, sugarbush, winged	3 - 6	1 – 1.5
partial control		
sweetgum	3 - 4.5	1
swordfern	3 - 7.5	1 – 1.5
partial control		
tallowtree, Chinese	--	1
tan oak resprouts		1.5
partial control		
thimbleberry	3 - 4	1
control		
tobacco, tree	1.75 - 6	1 – 1.5
partial control		
toyon	--	1.5
trumpetcreeper	3 - 4.5	1 – 1.5
vine maple	3 - 7.5	
partial control		
Virginia creeper	3 - 7.5	1 – 1.5
waxmyrtle, southern		
partial control		
willow	4.5 - 6	1
yerba santa	--	1.5
partial control		

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. To the extent permitted by law, otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. TO THE EXTENT PERMITTED BY LAW, Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

Limitation of Remedies

To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

To the extent permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or Limitation of Remedies in any manner.

®Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

Produced for
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

Label Code: D02-351-004
Replaces Label: D02-351-003
LOES Number: 010-02164

EPA accepted 12/13/13

Revisions:

1. Updated trademark information
2. Added resistance management group
3. Incorporate all supplemental labels into the main label
4. Separate Precautions and Restrictions into different sections throughout
5. Replaced "gallons of water per acre" with "gpa of water" throughout
6. Changed units from oz to quarts or quarts to gallons (where applicable) throughout
7. Tank mixes added and deleted where appropriate
8. Correct the maximum application rate from 7 to 8 quarts
9. Corrections to add back approved crop uses (Sub-Label A) from previously approved stamped

SAFETY DATA SHEET
DOW AGROSCIENCES LLC

Product name: ACCORD™ XRT II Herbicide

Issue Date: 10/23/2015
Print Date: 10/23/2015

DOW AGROSCIENCES LLC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: ACCORD™ XRT II Herbicide

Recommended use of the chemical and restrictions on use
Identified uses: End use herbicide product

COMPANY IDENTIFICATION
DOW AGROSCIENCES LLC
9330 ZIONSVILLE RD
INDIANAPOLIS IN 46268-1053
UNITED STATES

Customer Information Number: 800-992-5994
info@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 800-992-5994
Local Emergency Contact: 352-323-3500

2. HAZARDS IDENTIFICATION

Hazard classification
This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.
Eye irritation - Category 2B
Skin sensitisation - Sub-category 1B

Label elements
Hazard pictograms

Signal word: **WARNING!**

Hazards
May cause an allergic skin reaction.
Causes eye irritation.

Precautionary statements

Prevention
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves.

Response
IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If skin irritation or rash occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Wash contaminated clothing before reuse.

Disposal
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Plant growth regulator
This product is a mixture.

Component	CASRN	Concentration
Glyphosate DMA Salt	34494-04-7	50.2%
Balance	Not available	49.8%

4. FIRST AID MEASURES

Description of first aid measures
General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

Skin contact: Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse.

Shoes and other leather items which cannot be decontaminated should be disposed of properly. Suitable emergency safety shower facility should be available in work area.

Eye contact: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice. Suitable emergency eye wash facility should be available in work area.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. General purpose synthetic foams (including AFFF type) or protein foams are preferred if available. Alcohol resistant foams (ATC type) may function.

Unsuitable extinguishing media: No data available

Special hazards arising from the substance or mixture
Hazardous combustion products: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Phosphorus oxides. Nitrogen oxides. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: This material will not burn until the water has evaporated. Residue can burn.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the “Accidental Release Measures” and the “Ecological Information” sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Small spills: Absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Store in a dry place. Store in original container. Keep container tightly closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies. Do not store in: Galvanized containers. Steel.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Exposure limits are listed below, if they exist.

None established
RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

Exposure controls
Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures
Eye/face protection: Use chemical goggles.
Skin protection
Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber (“latex”). Neoprene. Nitrile/butadiene rubber (“nitrile” or “NBR”). Polyethylene. Ethyl vinyl alcohol laminate (“EVAL”). Polyvinyl chloride (“PVC” or “vinyl”). NOTICE: The selection of a specific glove for a particular application and duration of use in a

workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.
The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Liquid.
Color	Yellow
Odor	Amine.
Odor Threshold	No data available
pH	4.59 *pH Electrode*
Melting point/range	Not applicable
Freezing point	No data available
Boiling point (760 mmHg)	No data available
Flash point	**closed cup** > 100 °C (> 212 °F) *Setaflash Closed Cup ASTM D3828*
Evaporation Rate (Butyl Acetate = 1)	No data available
Flammability (solid, gas)	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	No data available
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	No data available
Water solubility	Soluble
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No test data available
Dynamic Viscosity	32.5 mPa.s at 40 °C (104 °F) 62.3 mPa.s at 20 °C (68 °F)
Kinematic Viscosity	No data available
Explosive properties	No
Oxidizing properties	No significant increase (>5C) in temperature.

Liquid Density	1.2114 g/cm3 at 20 °C (68 °F) *Digital density meter*
Molecular weight	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical stability: Thermally stable at typical use temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Active ingredient decomposes at elevated temperatures.

Incompatible materials: Avoid contact with: Acids. Halogens. Oxidizers. Peroxides. Flammable hydrogen may be generated from contact with metals such as: Steel.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon monoxide. Carbon dioxide. Hydrocarbons. Nitrogen oxides. Phosphorus oxides.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity
Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product:
LD50, Rat, female, > 5,000 mg/kg

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product:
LD50, Rat, male and female, > 5,000 mg/kg

Acute inhalation toxicity
No adverse effects are anticipated from single exposure to mist. Based on the available data, narcotic effects were not observed.

As product:
LC50, Rat, male and female, 4 Hour, Aerosol, > 5.63 mg/l No deaths occurred at this concentration.

Skin corrosion/irritation
Brief contact may cause slight skin irritation with local redness.

Serious eye damage/eye irritation
May cause moderate eye irritation.
May cause slight corneal injury.

Sensitization
Has demonstrated the potential for contact allergy in mice.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
For similar material(s):
Glyphosate.
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Carcinogenicity
For similar active ingredient(s). Glyphosate. Did not cause cancer in laboratory animals. Weight of evidence evaluation of epidemiology studies supports no association between glyphosate exposure and cancer.

Teratogenicity
For similar active ingredient(s). Glyphosate. Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

Reproductive toxicity
For similar active ingredient(s). Glyphosate. In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

Mutagenicity
This material was not mutagenic in an Ames bacterial assay. Animal genetic toxicity studies were negative.

Genetic Toxicity in vivo
Mouse Bone Marrow Micronucleus Test Mouse male Oral gavage negativeResult: negative

Aspiration Hazard
Based on physical properties, not likely to be an aspiration hazard.

Carcinogenicity

Component	List	Classification
Glyphosate DMA Salt	IARC	Group 2A: Probably carcinogenic to humans

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Acute toxicity to fish
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 11 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, 17 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate inhibition, 2.1 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to Above Ground Organisms
Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

oral LD50, Coturnix japonica (Japanese quail), > 2250mg/kg bodyweight.

oral LD50, Apis mellifera (bees), 48 Hour, > 250µg/bee

contact LD50, Apis mellifera (bees), 48 Hour, > 250µg/bee

Toxicity to soil-dwelling organisms
LC50, Eisenia fetida (earthworms), 14 d, survival, > 996.6 mg/kg

Persistence and degradability

Glyphosate DMA Salt
Biodegradability: For similar active ingredient(s). Glyphosate. Biodegradation may occur under aerobic conditions (in the presence of oxygen).

Balance
Biodegradability: No relevant data found.

Bioaccumulative potential

Glyphosate DMA Salt
Bioaccumulation: For similar active ingredient(s). Glyphosate. Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Potential for mobility in soil is slight (Koc between 2000 and 5000). For similar active ingredient(s). Glyphosate. Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Balance
Bioaccumulation: No relevant data found.

Mobility in soil

Glyphosate DMA Salt
For similar active ingredient(s).

Glyphosate.
Expected to be relatively immobile in soil (Koc > 5000).

Balance
No relevant data found.

13. DISPOSAL CONSIDERATIONS

Disposal methods: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Glyphosate)
UN number	UN 3082
Class	9
Packing group	III
Marine pollutant	Glyphosate
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.(Glyphosate)
UN number	UN 3082
Class	9
Packing group	III

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Immediate health hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Pennsylvania (Worker and Community Right-To-KnowAct): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Pennsylvania (Worker and Community Right-To-KnowAct): Pennsylvania Special Hazardous Substances List:
The following product components are cited in the Pennsylvania Special Hazardous Substance List, and are present at levels which require reporting.

Components	**CASRN**
Formaldehyde	50-00-0

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

United States TSCA Inventory (TSCA)
This product contains chemical substance(s) exempt from U.S. EPA TSCA Inventory requirements. It is regulated as a pesticide subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements.

Federal Insecticide, Fungicide and Rodenticide Act
EPA Registration Number: 62719-556

CAUTION

Causes moderate eye irritation
Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

16. OTHER INFORMATION

Hazard Rating System
NFPA

Health	Fire	Reactivity
1	1	0

Revision
Identification Number: 101223205 / A211 / Issue Date: 10/23/2015 / Version: 4.0
DAS Code: GF-1280
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW AGROSCIENCES LLC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

OPENSIGHT

Specimen Label

Dow AgroSciences

Opensight®

SPECIALTY HERBICIDE

®Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

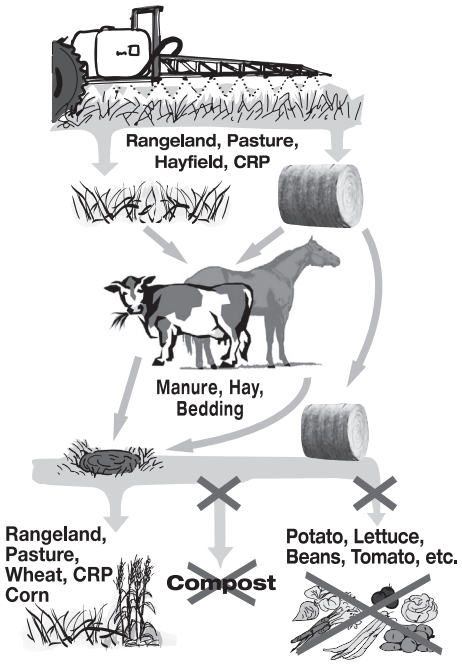
For control of susceptible weeds and certain woody plants, including invasive and noxious weeds, on rangeland, permanent grass pastures, Conservation Reserve Program (CRP) acres, non-cropland areas including industrial sites, rights-of-way (such as roadsides, electric utility and communication transmission lines, pipelines, and railroads), non-irrigation ditch banks, natural areas (such as wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites.

Hay from grass treated with Opensight within the preceding 18-months can only be used on the farm or ranch where product is applied unless allowed by supplemental labeling

IMPORTANT USE PRECAUTIONS AND RESTRICTIONS TO PREVENT INJURY TO DESIRABLE PLANTS

- Carefully read the section ***"Restrictions in Hay or Manure Use ."***
- It is mandatory to follow the ***"Use Precautions and Restrictions"*** section of this label.
- Manure and urine from animals consuming grass or hay treated with this product may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- Hay can only be used on the farm or ranch where product is applied unless allowed by supplemental labeling.
- Consult with a Dow AgroSciences representative if you do not understand the "Use Precautions and Restrictions". **Call [1-(800) 263-1196] Customer Information Group**.

Forage and Manure Management



Not For Sale, Distribution, or Use in New York State.

GROUP	2	4	HERBICIDE

Active Ingredients:

Potassium salt of 2-pyridine carboxylic acid, 4-amino-3,6-dichloro-	62.13%
Metsulfuron methyl (Methyl 2-[[[[(4-methoxy-6-methyl-1,3,5- triazin-2-yl)-amino]carbonyl] amino]sulfonyl]benzoate)	9.45%
Other Ingredients	28.42%
Total	100.0%

Acid Equivalent: aminopyralid (2-pyridine carboxylic acid, 4-amino-3, 6-dichloro-) - 52.5%

Contains 0.62 pound potassium salt of aminopyralid active ingredient (0.525 pound acid equivalent) and 0.0945 pound metsulfuron methyl per pound of product

Precautionary Statements

Hazards to Humans and Domestic Animals

EPA Reg. No. 62719-597

WARNING

Causes Substantial but Temporary Eye Injury • Harmful if Swallowed

Do not get in eyes or on clothing. Avoid contact with skin.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical resistant gloves
- Protective eyewear

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

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

First Aid

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

If on skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If swallowed: Call a poison control center or doctor immediately for treatment advice. Have 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 by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

Environmental Hazards

Do not apply directly to water, 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 washwater or rinsate.

This chemical has the properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Directions for Use

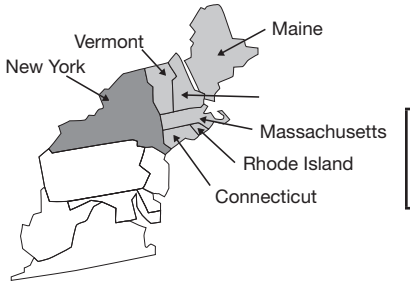
It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Read all Directions for Use carefully before applying.

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.

Not For Sale, Distribution, or Use in New York State.

Not for use on pastures in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. All other labeled uses are permitted in these states including grazed areas in and around approved use sites.



Light grey = states where use in pastures is not permitted
Dark grey = NY where the product is not registered

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 48 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for Agricultural Pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Entry Restrictions for Non-WPS Uses: Do not enter or allow people or pets to enter the treated area until sprays have dried.

Storage and Disposal

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

Pesticide Storage: Store in original container only. In case of spill, contain material and dispose as waste.

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

Nonrefillable rigid containers 5 gallons or less:

Container Handling: Nonrefillable container. Do not reuse or refill this container. 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.

Triple rinse or pressure rinse container (or equivalent) 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 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Nonrefillable nonrigid containers:

Container Handling: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available, or dispose in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Refillable rigid containers larger than 5 gal:

Container Handling: 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 responsiiblity of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Nonrefillable rigid containers larger than 5 gal:

Container Handling: Nonrefillable container. Do not reuse or refill this container. 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.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water.

Storage and Disposal (Cont.)

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 tan or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Opensight® specialty herbicide may be applied by aerial or ground equipment to control susceptible broadleaf weeds and certain woody plants, including invasive and noxious weeds on rangeland, permanent grass pastures, CRP acres, non-cropland areas including industrial sites, rights-of-way (such as roadsides, electric utility and communication transmission lines, pipelines, and railroads), non-irrigation ditch banks, natural areas (such as wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites without injury to most grasses.

It is permissible to treat non-irrigation ditch banks, seasonally dry wetlands (such as flood plains, deltas, marshes, swamps, or bogs) and transitional areas between upland and lowland sites only when dry. Opensight can be used to the waters edge. Do not apply directly to water and take precautions to minimize overspray to open water when treating target vegetation in and around non-flowing, quiescent or transient water. When making applications to control unwanted plants on banks or shorelines of flowing water, minimize overspray to open water. Note: Consult local public water control authorities before applying this product in and around public water. Permits may be required to treat such areas.

***Hay from grass treated with Opensight within the preceding 18-months can only be used on the farm or ranch where product is applied unless allowed by supplemental labeling.**

Resistance Management Guidelines

- This product contains two herbicides with different modes of action. Development of plant populations resistant to the mode of action of aminopyralid is usually not a problem on rangeland, permanent grass pastures, Conservation Reserve Program (CRP), or non-cropland sites since these sites receive infrequent pesticide applications. There may be resistant weed biotypes to metsulfuron and adequate control of these species cannot be expected.
- Similar looking biotypes of a given weed species occurring in a treated area may vary in their susceptibility to a herbicide. Application of a herbicide below its labeled rate may allow more tolerant weeds to survive and a shift to more tolerant biotypes within the treated area.
- Where identified, spreading of resistant weeds to other fields may be prevented by cleaning harvesting and tillage equipment before moving to other areas and by planting weed-free seed.
- Contact your extension specialist, certified crop consultant, or Dow AgroSciences representative for the latest resistance management information.

Use Precautions and Restrictions

Consult with a Dow AgroSciences representative if you do not understand the "Use Precautions and Restrictions." Call (1-800-263-1196) for more information.

- **Do not use grasses treated with Opensight in the preceding 18-months for hay intended for export outside the United States.**
- **Hay from areas treated with Opensight in the preceding 18-months CANNOT be distributed or made available for sale off the farm or ranch where harvested unless allowed by supplemental labeling.**
- **Hay from areas treated with Opensight in the preceding 18-months CANNOT be used for silage, haylage, baylage and green chop unless allowed by supplemental labeling.**
- **Do not move hay made from grass treated with Opensight within the preceding 18-months off farm unless allowed by supplemental labeling.**
- **Do not use hay or straw from areas treated with Opensight within the preceding 18-months or manure from animals feeding on hay treated with Opensight in compost.**
- **Do not use grasses treated with Opensight in the preceding 18-months for seed production.**

Maximum Application Rate: On all labeled use sites do not broadcast apply more than 3.3 ounce/acre of Opensight per year. The total amount of Opensight applied broadcast, as a re-treatment, and/or spot treatment cannot exceed 3.3 oz of product per acre per year. Spot treatments may be applied at an equivalent broadcast rate of up to 6.6 oz product of Opensight per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate. Do not apply more than a total of 3.3 ounce/acre of Opensight per annual growing season as a result of broadcast, spot or repeat applications.

- Do not use on Timothy hay or other cool-season grasses grown for hay.
- Do not apply this product on lawns, turf, ornamental plantings, urban walkways, driveways, tennis courts, golf courses, athletic fields, commercial sod operations, or other high-maintenance, fine turfgrass areas, or similar areas.
- Do not overseed ryegrass for 4 months after treatment.
- **Opensight is highly active against many broadleaf plant species.** Do not use this product on areas where loss of broadleaf plants, including legumes, cannot be tolerated.
- **Chemigation:** Do not apply this product through any type of irrigation system.
- **Do not contaminate water intended for irrigation or domestic purposes.** Do not treat inside banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation or domestic purposes.
- Do not apply to irrigated land where the tailwater will be used to irrigate crops.
- Do not use this product for impregnation on dry fertilizer, unless specified in Dow AgroSciences state-specific product bulletin.
- Do not use Opensight in the following counties of Colorado: Alamosa, Conejos, Costilla, Rio Grande, and Saquache.
- **Trees** adjacent to or in a treated site can occasionally be affected by root uptake of Opensight. Do not apply Opensight within the root zone of desirable trees unless such injury can be tolerated. Use special caution near roses, and leguminous trees such as locusts, redbud, mimosa, and caragana.
    - o Do not apply or drain or flush equipment on or near desirable trees or other plants, or on areas where their roots extend, or in locations where the product may be washed or moved into contact with their roots, as injury or loss of desirable trees or other plants may result.
- Applications made during periods of intense rainfall, to soils saturated with water, surfaces paved with materials such as asphalt or concrete, or soils through which rainfall will not readily penetrate may result in runoff and movement of Opensight. Injury to crops may result if treated soil and/or runoff water containing Opensight is washed, or moved onto land used to produce crops. Exposure to Opensight may injure or kill susceptible crops and other plants, such as grapes, soybeans, tobacco, sensitive ornamentals. Do not treat frozen soil where runoff could damage sensitive plants.
- **Seeding Legumes:** Do not plant forage legumes until a soil bioassay has been conducted to determine if aminopyralid or metsulfuron concentration remaining in the soil will adversely affect the legume establishment.
- Under certain conditions such as heavy rainfall, high pH, prolonged cold weather, or wide fluctuations in day/night temperatures prior to or soon after Opensight application, temporary discoloration and/or grass injury may occur. Opensight should not be applied to grass that is stressed by severe weather conditions, drought, low fertility, water-saturated soil, disease, or insect damage, as grass injury may result. Severe winter stress, drought, disease, or insect damage before or following application also may result in grass injury.
- Do not apply to frozen ground as surface runoff may occur.
- Do not apply to snow-covered ground.
- **Grazing and Haying Restrictions:** There are no restrictions on grazing or grass hay harvest intervals following application of Opensight at labeled rates. However, cutting hay too soon after spraying weeds will reduce weed control. Wait 14 days after herbicide application to cut grass hay to allow herbicide to work. Do not transfer grazing animals from areas treated with Opensight to areas where sensitive broadleaf crops occur without first allowing 3 days of grazing on an

untreated pasture. Otherwise, urine and manure may contain enough aminopyralid to cause injury to sensitive broadleaf plants.

- **Grazing Poisonous Plants:** Application of this product may increase palatability of certain poisonous plants. Do not graze areas treated with Opensight until poisonous plants are dry and no longer palatable to livestock.
- **Restrictions in Hay or Manure Use:**
  - Do not use treated plant residues, including hay or straw from areas treated within the preceeding 18-months, in compost, mulch or mushroom spawn.
  - Do not use manure from animals that have grazed forage or eaten hay harvested from treated areas within the previous 3 days, in compost, mulch or mushroom spawn.
  - Do not spread manure from animals that have grazed or consumed forage or eaten hay from treated areas within the previous 3 days on land used for growing susceptible broadleaf crops.
  - Manure from animals that have grazed forage or eaten hay harvested from treated areas within the previous 3 days may only be used on pasture grasses, grass grown for seed, wheat and corn.
  - Do not plant a broadleaf crop (including soybeans, sunflower, tobacco, vegetables, field beans, peanuts, and potatoes) in fields treated with manure from animals that have grazed forage or eaten hay harvested from aminopyralid-treated areas until an adequately sensitive field bioassay is conducted to determine that the aminopyralid concentration in the soil is at level that is not injurious to the crop to be planted.
  - Do not plant a broadleaf crop in fields treated in the previous year with manure from animals that have grazed forage or eaten hay harvested from treated areas until an adequately sensitive field bioassay is conducted to determine that the aminopyralid concentration in the soil is at level that is not injurious to the crop to be planted.
  - To promote herbicide decomposition, plant residues should be evenly incorporated in the surface soil or burned. Breakdown of aminopyralid in plant residues or manure is more rapid under warm, moist soil conditions and may be enhanced by supplemental irrigation.
- **Crop Rotation:** Do not rotate to any crop from rangeland, permanent pasture or CRP acres within one year following treatment. Do not plant a broadleaf crop until an adequately sensitive field bioassay shows that the level of aminopyralid or metsulfuron present in the soil will not adversely affect that broadleaf crop.
- **Field Bioassay Instructions:** In fields previously treated with this product, plant short test rows of the intended rotational crop across the original direction of application in a manner to sample variability in field conditions such as soil texture, soil organic matter, soil pH, rainfall pattern or drainage. The field bioassay can be initiated one year after the last application of aminopyralid in that field. Observe the test crop for symptoms of herbicidal activity, such as poor stand (effect on seed germination), chlorosis (yellowing), and necrosis (dead leaves or shoots), or stunting (reduced growth). If herbicidal symptoms do not occur, the test crop can be grown. If there is apparent herbicidal activity, do not plant the field to the intended rotational crop; plant only to wheat, perennial forage grasses, native grasses or grasses grown for hay.
- **Avoiding Injury to Non-Target Plants:** Do not aerially apply Opensight within 50 feet of a border downwind (in the direction of wind movement), or allow spray drift to come in contact with, any broadleaf crop or other desirable broadleaf plants, including, but not limited to, alfalfa, cotton, dry beans, flowers, grapes, lettuce, potatoes, radishes, soybeans, sugar beets, sunflowers, tobacco, tomatoes or other broadleaf or vegetable crop, fruit trees, ornamental plants, or soil where sensitive crops are growing or will be planted. Avoid application under conditions that may allow spray drift because very small quantities of spray may seriously injure susceptible crops. Read and consider the "Precautions for Avoiding Spray Drift and Spray Drift Advisory" at the end of this label to help minimize the potential for spray drift.
- To reduce the potential for movement of treated soil due to wind erosion, do not apply to powdery dry or light sandy soils until they have been stabilized by rainfall, plant residue mulch, reduced tillage, or other cultural practices. Injury to immediately adjacent crops may occur when treated soil is blown onto land used to produce crops other than pasture, rangeland or CRP.

Sprayer Clean-Out Instructions

It is recommended to use separate spray equipment on highly sensitive crops such as tobacco, soybeans, peanuts and tomatoes. Do not use spray equipment used to apply Opensight for other applications to land planted to, or to be planted to, broadleaf plants unless it has been determined that all residues of this herbicide has been removed by thorough cleaning of equipment.

Equipment used to apply Opensight should be thoroughly cleaned before reusing to apply any other chemicals as follows:

1. Rinse and flush application equipment thoroughly after use. Dispose of rinse water in non-cropland area away from water supplies.
2. Rinse a second time, adding 1 quart of household ammonia or tank cleaning agent for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15 to 20 minutes). Let the solution stand for several hours, preferably overnight.
3. Flush the solution out of the spray tank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each time.
5. Spray nozzles and screens should be removed and cleaned separately.

Do not apply this product with mist blower systems that deliver very fine spray droplets. Use of mist blower equipment can reduce control achieved with the herbicide and increase spray drift potential.

Application Methods

Apply the specified rate of Opensight as a coarse low-pressure spray. Do not apply this product with mist blower systems that deliver very fine spray droplets. Spray volume should be sufficient to uniformly cover foliage. Increase spray volume to ensure thorough and uniform coverage when target vegetation is tall and/or dense. To enhance foliage wetting and coverage, an approved non-ionic agricultural surfactant may be added to the spray mixture as specified by the surfactant label.

Ground Broadcast Application: Higher spray volumes (greater than 10 gallons per acre) generally provide better coverage and better control, particularly in dense and/or tall foliage.

Aerial Broadcast Application: Do not apply less than 2 gallons per acre total spray volume. Five gallons per acre or greater will generally provide better coverage and better control, particularly in dense and/or tall foliage.

High-Volume Foliar Application: High volume foliar treatments may be applied at rates equivalent to a maximum of 3.3 ounces per acre annual growing season. Use sufficient spray volume to thoroughly and uniformly wet foliage and stems.

Spot Application: Spot treatments may be applied at an equivalent broadcast rate of up to 6.6 oz of product per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate. Do not apply more than a total of 3.3 ounce/acre of Opensight per annual growing season as a result of broadcast, spot or repeat applications. Spray volume should be sufficient to thoroughly and uniformly wet weed foliage, but not to the point of runoff. Repeat treatments may be made, but the total amount of Opensight applied must not exceed 3.3 ounce/acre per year.
To prevent misapplication, spot treatments should be applied with a calibrated sprayer**.**

In general for spot treatments, mix 2.5 oz for weeds and 3.3 oz for brush of Opensight per 100 gallons of water (assuming an application volume of 100 gallons per acre).

Product Measurement

Opensight is measured using the Opensight volumetric measuring cylinder. Scales calibrated in ounces may also be used.

Mixing Instructions

1. Fill the tank 1/4 to 1/3 full of water (If using liquid nitrogen fertilizer solution in place of water, see Tank Mixtures sections for additional details).
2. While agitating, add the required amount of Opensight.
3. Continue agitation until the Opensight is fully dispersed, at least 5 minutes.
4. Once the Opensight is fully dispersed, maintain agitation and continue filling tank with water. Opensight should be thoroughly mixed with water before adding any other material.
5. As the tank is filling, add tank mix partners (if desired) then add the necessary volume of spray adjuvants. Always add spray adjuvants last.
6. If the mixture is not continuously agitated, settling will occur. If settling occurs, thoroughly re-agitate before using.
7. Apply Opensight spray mixture within 24 hours of mixing to avoid product degradation.
8. If Opensight and a tank mix partner are to be applied in multiple loads, pre-slurry the Opensight inclean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of the Opensight.

Soil pH Limitations

Opensight should not be used on soils having a pH above 7.9, as extended soil residual activity could extend crop rotation intervals beyond

normal. Under certain conditions, Opensight could remain in the soil for 34 months or more injuring wheat and barley. In addition, other crops planted in high-pH soils can be extremely sensitive to low concentrations of Opensight.

Checking Soil pH
Before using Opensight, determine the soil pH of the areas of intended use. To obtain a representative pH value for the test area, take several 0" to 4" samples from different areas of the field and analyze them separately. Consult local extension publications for additional information on recommended soil
sampling procedures.

Spray Adjuvants
Unless otherwise directed, applications of Opensight must include either a crop oil concentrate or a nonionic surfactant. In addition, an ammonium nitrogen fertilizer can be used unless specifically prohibited by tank mix partner labeling. If another herbicide is tank mixed with Opensight, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients (40 CFR 1001).

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

Nonionic Surfactant (NIS)
- Apply at 0.25% v/v (1 quart per 100 gallons spray solution) or 0.5% under arid conditions.
- Surfactant products must contain at least 60% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12.

Ammonium Nitrogen Fertilizer
- Use 2 quarts/acre of a high-quality urea ammonium nitrate (UAN), such as 28%N or 32%N, or 2 pounds/acre of a spray grade ammonium sulfate (AMS). Use 4 quarts/acre UAN or 4 pounds/acre AMS under arid conditions.

Special Adjuvant Types
- Combination adjuvant products may be used at doses that provide the required amount of NIS, COC, MSO and/or ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions. Exception: On tall fescue pastures use a reduced rate of 1/2 to 1 pint non-ionic surfactant per 100 gallons.
- Antifoaming agents may be used if needed.
- Do not use Opensight with spray additives that reduce the pH of the spray solution to below 3.0.

Tank Mixing with Other Herbicides: Opensight at rates of up to 3.3 ounce/acre may be mixed with labeled rates of other herbicides registered for application on all labeled use sites. Opensight may be applied in tank-mix combination with labeled rates of other herbicides provided: (1) the tank-mix product is labeled for the timing and method of application for the use site to be treated and (2) mixing is not prohibited by the label of the registered tank mixed products, and (3) that the tank-mix combination is physically compatible (see tank-mix compatibility testing below). When tank mixing, use only in accordance with the restrictions, precautions and limitations on the respective product labels.
- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed specified application rates. If products containing the same active ingredient are mixed, do not exceed the maximum allowable active ingredient use rates.
- For direct injection or other spray equipment where the product formulations will be mixed in undiluted form, special care should be taken to ensure tank mix compatibility.
- Always perform a jar test to ensure the compatibility of products to be used in tank mixture.

Tank Mix Compatibility Testing: Perform a jar test prior to mixing in a spray tank to ensure compatibility of Opensight and other pesticides or carriers. Use a clear glass jar with lid and mix ingredients in the same order and proportions as will be used in the spray tank. The mixture is compatible if the materials mix readily when the jar is inverted several times. The mixture should remain stable after standing for 1/2 hour or, if separation occurs, should readily remix if agitated. An incompatible mixture is indicated by separation into distinct layers that do not readily remix when agitated and/or the presence of flakes, precipitates, gels, or heavy oily film in the jar. Use of an appropriate compatibility aid may resolve mix incompatibility. If the mixture is incompatible do not use that tank mix partner in tank mixtures.
Note: Foliar-applied liquid fertilizers themselves can cause yellowing of the foliage of forage grasses and other vegetation.

Guidelines for Grass Management

Opensight may be applied to established native grasses such as wheatgrasses, bluestems and grama, and on other established pasture grasses such as bermudagrass, bluegrass, orchardgrass, bromegrass, and tall fescue that were planted the previous growing season (or earlier) and are fully tillered, unless otherwise directed on this label. Specific application timing information on several of these grass species follows:
- Opensight may suppress certain established grasses, such as smooth bromegrass (*Bromus inermis*), especially when plants are stressed by adverse environmental conditions. Plants should recover from this transient suppression with the onset of environmental conditions favorable to grass growth and upon release from weed competition.
- Varieties and species of forage grasses differ in their tolerance to herbicides. When using Opensight on a particular grass for the first time, limit use to a small area. If no injury occurs throughout the season, larger acreage may be treated.
- Application of Opensight to Pensacola bahiagrass, ryegrass (Italian or perennial) and Garrison's creeping foxtail may cause severe injury to and/or loss of pastures.

Seeding grasses:
Preemergence: In general, Opensight may be applied in the spring or early summer, depending on the target weed species, as a broadcast application over grass that was planted at least 4 months prior to the application and that has been growing under favorable conditions for grass establishment.
With fall applications, do not plant grasses the following spring.
Do not overseed ryegrass for 4 months after treatment.

Tall Fescue:
Opensight may stunt tall fescue, cause it to turn yellow, or cause seed head suppression. To minimize these symptoms, take the following precautions:
- do not use on tall fescue grown for seed
- do not use more than 2 ounce/acre of Opensight
- tank-mix Opensight with 2,4-D
- use a reduced rate of non-ionic surfactant at 1/2 to 1 pint per 100 gallons of spray solution (1/16 to 1/8% v/v)
- make application later in the spring after the new growth is 5 to 6 inches tall (until after reproductive culm has started to elongate), or in the fall
- do not use surfactant when liquid nitrogen is used as a carrier
- do not use a spray adjuvant other than non-ionic surfactant

Initial grass yields may be reduced due to fescue seed head suppression resulting from treatment with Opensight at labeled rates. However, this could be beneficial because in tall fescue infected with the fungal endophyte *(Neotyphodium* spp.), the endophyte is concentrated in the seed and cattle grazing plants with the seed head will get the maximum exposure to the endophyte. Increased levels of ingestions of the fungal endophyte can reduce weight gain and conception rates in cattle. Since the first grazing is often delayed in the spring until long after seed head development, Opensight could potentially be used to reduce development of the seed head, thereby reducing the amount of the endophyte that would be consumed by livestock when grazing.

Seed Head Suppression: If the intent is to control weeds and reduce tall fescue seed heads, apply Opensight at 2.0 to 2.5 ounce/acre early to fescue that is less than 6 inches tall.

Pensacola bahiagrass control in established Bermudagrass pasture: Apply Opensight at 2-2.5 ounce/acre after green-up in the spring, but before bahiagrass seedhead formation. Application should be made when environmental conditions favor grass growth.

Bahiagrass suppression could take up to 30 days before the desired level of control is achieved. Application of 2,4-D mixed with Opensight could decrease bahiagrass control. In pastures severely infested with bahiagrass, a positive response in forage yield may be slowed until desired forage grasses, like bermudagrass, grow into areas previously infested with bahiagrass. To reduce this effect consider treating different portions of heavily infested pastures with Opensight over a period of several years. Do not apply Opensight to an entire farm or ranch in one year. Fertilization and/or replanting may accelerate bermudagrass recovery following bahiagrass control with Opensight.

Bahiagrass regrowth may occur in pastures heavily infested with bahiagrass, intense grazing pressure, or when adverse environmental conditions (heat and drought), slows the recovery of desired grass forages.

Opensight will not control common or Argentine bahiagrass.

Pensacola bahiagrass control can be reduced when Opensight is applied in liquid fertilizer solutions.

Use Rates and Timing

Opensight may be applied post emergence as a broadcast spray or as a spot application to control weeds and brush including, but not limited to, those listed on this label. When a rate range is given use the higher rate to control weeds at advanced growth stages, or under less than favorable growing conditions, or for longer residual control. Best results are obtained when spray volume is sufficient to provide uniform coverage of treated weeds. For optimum uptake and translocation of Opensight, avoid mowing, haying, shredding, burning or soil disturbance in treated areas for at least 14 days following application.

Opensight also provides preemergence control of emerging seedlings of susceptible weeds, and re-growth of certain perennial weeds following application. Preventing establishment of weeds will depend upon application rate, season of application, and environmental conditions after application.

Opensight can provide long-term control of susceptible weeds. The length of control is dependent upon the application rate, condition and growth stage of target weeds, environmental conditions at and following application, and the density and vigor of competing desirable vegetation. Long-term weed control is most effective where grass vegetation is allowed to recover from overgrazing, drought, etc., and compete with weeds.

Opensight can be an important component of integrated vegetation management programs designed to renovate or restore desired plant communities. To maximize and extend the benefits of weed control provided by Opensight, it is important that other vegetation management practices, including proper grazing management, biological control agents, replanting, fertilization, prescribed fire, etc., be used in appropriate sequences and combinations to further alleviate the adverse effects of weeds on desirable plant species and to promote development of desired plant communities. Agricultural and natural resources specialists with federal and state government agencies can provide guidance on best management practices and development of integrated vegetation management programs.

Species Controlled

General Mix of Broadleaf Weeds: Opensight at 2.0 ounce/acre is the standard rate to provide control of many problem weeds when applied early in the season. If a certain weeds are key targets, use the rate in Table 1 for that species. The addition of Garlon herbicides, DMA 4 IVM, or other herbicides allowed for use on the site to be sprayed can be tank mixed to broaden the weed spectrum.

Opensight controls weeds and woody plants primarily by postemergent activity. Although Opensight has Preemergence acitivty, best results are generally obtained when Opensight is applied to foliage after emergence or dormancy break. Generally, for the control of annual weeds, Opensight provides the best results when applied to young, actively growing weeds. For the control of perennial weeds, applications made at the bud/bloom stage or while the target weeds are in the fall rosette stage typically provide the best results. The use rate depends upon the weed species and size of the weed at the time of application.

The degree and duration of control depends on weed spectrum and infestation intensity, weed size at application, environmental conditions at and following treatment, soil pH, soil moisture, and soil organic matter, and other factors.

For best results, most weeds should be treated when they are actively growing and under conditions favorable for growth. Use a higher rate in the rate range indicated when growing conditions are less than favorable (drought conditions), weeds are large and mature, weed density and foliage cover is high and canopy height is tall, or when residual control is desired. Opensight also provides preemergence control of germinating seeds or seedlings of susceptible weeds following application.

For rates for specific weeds, see Table 1. The life cycle is included for each weed species. The general timing of application for each life cycle is as follows:

Annuals: Use lower rates when weeds are less than 6 inches and actively growing. Increase rate as season progresses and plants become more mature.

Biennials: Apply in the spring and early summer to rosette or bolting plants or in the fall to seedlings and rosettes before ground is frozen. Use higher rates after bolting through early flower.

Perennials: Apply to vegetative stage prior to bloom. Use higher rate when weeds are larger.

Table 1: Species Controlled with Opensight

Note: Weeds marked with a * indicate more information is included in the specific weed problems section after the table.

Broadleaf Weeds Controlled by Opensight

Weed Species				Opensight rate oz product/a
Common Name	**Scientific Name**	**Life Cycle**	**Plant Family**	
actinomeris, wingstem	*Verbesina alternifolia*	perennial	Asteraceae	**3.0**
alyssum, hoary	*Berteroa incana*	biennial	Brassicaceae	**2.0-2.5**
amaranth, spiny	*Amaranthus spinosus*	summer annual	Amaranthaceae	**1.5-2.0**
arrowgrass, seaside‡	*Trifglochin maritima*	perennial	Juncaginaceae	**3.0-3.3**
aster	*Aster spp.*	perennial	Asteraceae	**1.5-2.0**
bahiagrass, Pensacola*	*Paspalum notatum Flugge*	perennial	Poaceae	**2.0-2.5**
babysbreath	*Gypsophila paniculata*	perennial	Caryophyllaceae	**2.5-3.0**
bedstraw	*Galium spp.*	perennial	Rubiaceae	**2.0-2.5**
bittercress	*Cardimane spp*	perennial	Brassicaceae	**2.0-2.5**
blackeyed-Susan	*Rudbeckia hirta*	annual	Asteraceae	**1.5-2.0**
brackenfern	*Pteridiums spp.*	perennial	Dennstaedtiaceae	**2.5-3.3**
broomweed, annual	*Amphiachyris dracunculoides*	annual	Asteraceae	**1.0-1.5**
bur buttercup (testiculate)	*Ranunculus testiculatus*	annual	Ranunculaceae	**1.0-1.5**
burclover	*Medicago spp*	annual	Fabaceae	**1.5-2.0**
burdock, Common	*Arctium minus*	biennial	Asteraceae	**2.0-2.5**
buttercup, hairy	*Ranunculus sardous*	perennial	Ranunculaceae	**1.0-1.5**
buttercup, tall	*Ranunculus acris*	perennial	Ranunculaceae	**2.0-2.5**
camelthorn	*Alhagi pseudalhagi*	perennial	Fabaceae	**2.0-3.0**
camphorweed	*Heterotheca subaxillaris*	summer annual	Asteraceae	**2.0-3.0**
campion, bladder‡	*Silene vulgaris*	perennial	Caryophyllaceae	**2.0-2.5**
caraway, wild	*Carum carvi*	biennial	Apiaceae	**2.5-3.0**
carrot, wild	*Daucus carota*	biennial	Apiaceae	**2.0-2.5**
catchfly, conical	*Silene conoidea*	annual	Caryophyllaceae	**1.0-1.5**
chamomile	*Matricaria spp*	annual	Asteraceae	**2.5-3.0**
chickweed, common	*Stellaria media*	Winter annual	Caryophyllaceae	**3.0**

Broadleaf Weeds Controlled by Opensight (Cont.)

Weed Species				Opensight rate oz product/a
Common Name	**Scientific Name**	**Life Cycle**	**Plant Family**	
chicory	*Cichorium intybus*	perennial	Asteraceae	**1.5-2.0**
cinquefoil*	*Potentilla spp*	perennial	Rosaceae	**2.0-2.5**
clover, sweet	*Melilotus officinalis*	biennial	Fabaceae	**2.5-3.0**
clover, white	*Trifolium repens*	perennial	Fabaceae	**1.5-2.0**
cockle, corn	*Agrostemma githago*	annual	Caryophyllaceae	**2.0-3.0**
cocklebur	*Xanthium strumarium*	annual	Asteraceae	**1.5-2.0**
coreopsis, plains	*Coreopsis tinctoria*	annual	Asteraceae	**2.0-3.0**
cowcockle	*Vaccaria pyramidata*	annual	Caryophyllaceae	**1.5-2.0**
crazyweed, silky	*Oxytropis Lambertii*	perennial	Fabaceae	**2.0-2.5**
croton, woolly	*Croton capitatus*	annual	Euphorbiaceae	**1.5-2.0**
crownvetch	*Securigera varia*	perennial	Fabaceae	**1.5-2.0**
crupina, common	*Crupina vulgaris*	perennial	Asteraceae	**3.0-3.3**
cudweed, purple	*Gnaphalium purpureum*	annual	Asteraceae	**2.0-2.5**
daisy, oxeye*	*Leucanthemum vulgare*	perennial	Asteraceae	**2.5-3.3**
dandelion, common	*Taraxacum officinale*	perennial	Asteraceae	**1.5-2.0**
dock	*Rumex spp*	perennial	Polygonaceae	**2.0-2.5**
dyer's woad ‡	*Istis tinctoria*	perennial	Brassicaceae	**3.3**
evening primrose, cutleaf	*Oenothera laciniata*	annual	Asteraceae	**1.5-2.0**
false dandelion, Carolina	*Tragopogon dubius*	biennial	Asteraceae	**1.5-2.0**
falseflax, Smallseed	*Camelina microcarpa*	annual/biennial	Brassicaceae	**1.5-2.0**
fiddleneck, common	*Amsinckia intermedia*	annual	Boraginaceae	**1.5-2.0**
filaree, redstem	*Erodium cicutarium*	annual/biennial	Geraniaceae	**3.0-3.3**
fireweed	*Epilobium angustifolium*	perennial	Onagracee	**2.5-3.0**
fleabane, annual	*Erigeron annus*	annual	Asteraceae	**1.5-2.0**
garlic. wild	*Allium vineale*	perennial	Liliaceae	**1.5-2.0**
geranium, Carolina	*Geranium carolinianum*	Winter annual	Geraniaceae	**1.5-2.0**
goldenrod spp	*Solidago canadensis*	perennial	Asteraceae	**2.0-2.5**
gumweed, curlycup	*Grindelia squarrosa*	biennial	Asteraceae	**2.0-2.5**
halogeton	*Halogeton glomeratus*	annual	Chenopodiaceae	**3.0-3.3**
hawkweed, orange*	*Hieracium aurantiacum*	perennial	Asteraceae	**2.5-3.3**
hawkweed, yellow*	*Hieracium pratense*	perennial	Asteraceae	**2.5-3.3**
hemlock, poison‡	*Conium maculatum*	perennial	Apiaceae	**2.5-3.3**
henbane, black	*Hyoscyamus niger*	annual/biennial	Solanaceae	**2.5-3.0**
henbit	*Lamium amplexicaule*	annual/biennial	Lamiaceae	**2.0-2.5**
horsemint (beebalm)	*Monarda spp*	annual	Lamiaceae	**1.5-2.0**
horsenettle, Carolina	*Solanum carolinense*	perennial	Solanaceae	**2.0-2.5**
horseweed (marestail)	*Conyza canadensis*	annual	Asteraceae	**1.5-2.0**
houndstongue*	*Cynoglossum officinale*	biennial	Boraginaceae	**2.5-3.3**
ironweed, tall	*Vernonia gigantea*	perennial	Asteraceae	**2.0-3.0**
ironweed, western	*Vernonia baldwinii*	perennial	Asteraceae	**2.0-3.0**
knapweed	*Centaurea sp.*	biennial	Asteraceae	**2.5-3.3**
knapweed, brown	*Centaurea jacea*	perennial	Asteraceae	**2.5-3.3**
knapweed, diffuse*	*Centaurea diffusa*	biennial	Asteraceae	**2.5-3.3**
knapweed, Russian*	*Acroptilon repens*	perennial	Asteraceae	**2.5-3.3**
knapweed, spotted*	*Centaurea stoebe*	biennial	Asteraceae	**2.5-3.3**
knotweed, prostrate	*Polygonum aviculare*	annual	Polygonaceae	**3.0**
kochia*	*Kochia scoparia*	annual	Chenopodiaceae	**1.5-2.0**
lady's thumb	*Polygonum persicaria*	annual	Polygonaceae	**1.5-2.0**
lambsquarters, common	*Chenopodium album*	annual	Chenopodiaceae	**2.0-2.5**
lespedeza, annual	*Lespedeza striata*	annual	Fabaceae	**2.0-2.5**
lespedeza, sericea*	*Lespedeza cuneata*	perennial	Fabaceae	**2.5-3.0**
lettuce, Miner's	*Montia perfoliata*	annual	Portulacaceae	**1.5-2.0**
lettuce, prickly*	*Lactuca serriola*	annual	Asteraceae	**1.5-2.0**
locoweed	*Astragalus spp.*	perennial	Fabaceae	**2.0-2.5**
loosestrife, purple	*Lythrum salicaria*	perennial	Lythraceae	**3.0-3.3**
marshelder, annual‡	*Iva annua*	annual	Asteraceae	**2.0-2.5**

Broadleaf Weeds Controlled by Opensight (Cont.)

Weed Species				Opensight rate oz product/a
Common Name	**Scientific Name**	**Life Cycle**	**Plant Family**	
mayweed, scentless	*Tripleurospermum perforata*	annual	Asteraceae	**1.5-2.0**
mayweed, stinking	*Anthemis cotula*	annual	Asteraceae	**3.0-3.3**
medic, black	*Medicago lupulina*	perennial	Fabaceae	**2.0-2.5**
mexicantea	*Dysphania ambrosioides*	annual/perennial	Chenopodiaceae	**2.0-2.5**
mullein*	*Verbascum spp.*	biennial	Scrophulariaceae	**2.0-3.3**
mustard, blue*	*Chorispora tenella*	annual	Brassicaceae	**1.5-2.0**
mustard, tumble/Jim Hill	*Sisymbrium altissimum*	Winter annual	Brassicaceae	**1.5-2.0**
mustard, wild	*Brassica kaber*	annual	Brassicaceae	**1.5-2.0**
needles, Spanish needles	*Bidens bipinnata*	annual	Asteraceae	**2.0-2.5**
oxtongue, bristly	*Picris echioides*	biennial	Asteraceae	**2.5-3.0**
parsnip, Wild	*Pastinaca sativa*	biennial	Apiaceae	**2.0-3.0**
partridgepea	*Chamaecrista fasciculata*	annual	Fabaceae	**2.5-3.0**
pepperweed, perennial‡*	*Lepidium latifolium*	perennial	Brassicaceae	**3.3**
pigweeds	*Amaranthus spp*	annual	Amaranthaceae	**1.5-2.0**
plantain, broadleaf	*Plantago major*	perennial	Plantaginaceae	**2.0-2.5**
plantain, buckhorn	*Plantago lanceolata*	perennial	Plantaginaceae	**2.0-2.5**
purslane, common	*Portulaca oleracea*	annual	Portulacaceae	**1.5-2.0**
ragweed, common	*Ambrosia artemisiifolia*	annual	Asteraceae	**2.0-2.5**
ragweed, western*	*Ambrosia psilostachya*	perennial	Asteraceae	**2.0-2.5**
ragwort, tansy	*Senecio jacobaea*	perennial	Asteraceae	**2.5-3.0**
rush skeletonweed	*Chondrilla juncea*	perennial	Asteraceae	**2.5-3.0**
salsify, Western‡	*Tragopogon dubius*	biennial	Asteraceae	**3.0-3.3**
scouringrush‡	*Equisetum hyemale*	grass	Equisetaceae	**3.3**
shephardspurse	*Capsella bursa-pastoris*	Winter annual	Brassicaceae	**1.5-2.0**
sicklepod	*Senna obtusifolia*	annual	Fabaceae	**2.5-3.0**
sida, arrowleaf	*Sida rhombifolia*	annual	Malvaceae	**2-2.5**
smartweed, Pennsylvania	*Polygonum pensylvanicum*	annual	Polygonaceae	**1.5-2.0**
snakeweed, broom*	*Gutierrezia sarothrae*	perennial	Asteraceae	**3.0**
sneezeweed, bitter	*Helenium amarum*	annual	Asteraceae	**1.0-1.5**
snow-on-the-mountain	*Euphorbia marginata*	annual	Euphorbiaceae	**2.0-2.5**
soda apple, tropical*	*Solanum viarum*	perennial	Solanaceae	**2.5-3.0**
sorrel, red	*Rumex acetosella*	perennial	Polygonaceae	**2.0-2.5**
sowthistle, perennial	*Sonchus arvensis*	perennial	Asteraceae	**2.0-2.5**
sowthistle, prickly	*Sonchus asper*	annual	Asteraceae	**1.5-2.0**
St. Johnswort, common	*Hypericum perforatum*	perennial	Clusiaceae	**2.5-3.0**
starthirstle, purple*	*Centaurea calcitrapa*	biennial	Asteraceae	**1.5-2.0**
star-thistle, Malta*	*Centaurea melitensis*	annual	Asteraceae	**1.5-2.0**
starthistle, yellow*	*Centaurea solstitialis*	annual	Asteraceae	**1.5-2.0**
sunflower, common	*Helianthus annua*	annual	Asteraceae	**1.5-2.0**
tansy, common	*Tanacetum vulgare*	perennial	Asteraceae	**2.5-3.3**
teasel	*Dipsacus spp.*	biennial	Dipsacaceae	**2.0-3.0**
thistle, Russian*	*Salsola iberica*	annual	Chenopodiaceae	**1.5-2.0**
thistle, artichoke	*Cynara cardunculus*	perennial	Asteracea	**2.0-3.0**
thistle, bull*	*Cirsium vulgare*	biennial	Asteraceae	**1.0-2.5**
thistle, Canada*	*Cirsium arvense*	perennial	Asteraceae	**2.0-3.3**
thistle, Italian	*Carduus pycnocephalus*	annual	Asteraceae	**2.0-3.0**
thistle, musk*	*Carduus nutans*	biennial	Asteraceae	**1.0-2.5**
thistle, plumeless*	*Carduus acanthoides*	biennial	Asteraceae	**1.0-2.5**
thistle, Scotch	*Onopordum acanthium*	biennial	Asteraceae	**1.5-2.5**
thistle, woolly distaff	*Carthamus lanatus*	annual	Asteraceae	**1.5-2.0**
vervain‡	*Verbena spp.*	perennial	Asteraceae	**2.0-2.5**
vetch, common*	*Vicia sativa*	annual	Fabaceae	**1.5-2.0**
wallflower, bushy	*Erysimum repandum*	annual	Brassicaceae	**1.5-2.0**
waterpod	*Ellisia nyctelea*	annual	Brassicaceae	**1.5-2.0**
whitetop (hoary cress)*	*Cardaria draba*	perennial	Brassicaceae	**3.3**
woodsorrel, yellow	*Oxalis stricta*	perennial	Oxalidaceae	**3.0-3.3**

Broadleaf Weeds Controlled by Opensight (Cont.)

Weed Species				Opensight rate oz product/a
Common Name	**Scientific Name**	**Life Cycle**	**Plant Family**	
wormwood, absinth*	*Artemisia absinthium*	perennial	Asteraceae	**3.0-3.3**
yankeeweed	*Eupatorium compositifolium*	perennial	Asteraceae	**3.0-3.3**
yarrow, common	*Achillea millefolium*	perennial	Asteraceae	**1.5-2.0**

‡ : This symbol denotes weed suppression which is a reduction in weed competition compared to untreated areas. A second treatment may be necessary. The addition of 0.5 lbs ae/acre of 2,4-D may improve intial control.

Hawkweed, orange or yellow: Apply Opensight at 2.5 to 3.3 ounce/acre to plants in the bolting stage of development.
Houndstongue: Apply 2.5 ounce/acre to rosettes. As plant bolts, increase the rate to 3.0 to 3.3 ounce/acre up to early bud stage. Add 1 quart of 2,4-D/acre after the bud stage.
Knapweeds, diffuse and spotted: Apply Opensight at 2.5 to 3.3 ounce/acre when plants are actively growing with the optimum time of application occurring from rosette to the bolting stages of development or in the fall. Plants will be controlled by mid-summer and fall applications even though plants may not show any changes in form or stature the year of application.
Knapweed, Russian: Apply Opensight at 2.5 to 3.3 ounce/acre to plants in the spring and summer to plants from early bud to flowering stage and to dormant plants in the fall.
Lespedeza, Sericea: Apply 2.5 to 3.0 ounce/acre beginning at flower bud initiation through the full bloom stage of growth.
Mullein: Apply 2.0 ounce/acre in the rosette stage in spring or fall. Use rates from 2.5 to 3.3 ounce/acre for bolting plants less than 12 inches tall.
Oxeye daisy: Apply Opensight at 2.5 to 3.3 ounce/acre to plants in the prebud stage of development.
Pepperweed, perennial: Apply Opensight at 3.3 ounce/acre plus 2 lb ae/a 2, 4-D when plants are at early flowering through bloom for optimum control.
Ragweed, Western: Apply Opensight at 2.0 to 2.5 ounce/acre when plants are in the vegetative growth stage. The addition of 0.5 to 1 lb ae/acre (1 to 2 pints/acre of 4 lb ae/gallon 2,4-D) of 2,4-D/acre will improve control in dense stands or when ragweed is greater than 6 inches.
Russian thistle, kochia, and prickly lettuce: Naturally occurring resistant biotypes of these weeds to metsulfuron are known to occur. For best results, use Opensight at 1.5 to 2.0 ounces/acre in tank-mix with 2,4-D. Applications to these weeds should be made early to weeds less than 6 inches in height.
Snakeweed, broom: Applications should be made in the fall at 3.0 ounces/acre. Spring applications will provide suppression only.
Soda apple, tropical: Apply Opensight at 2.5 to 3.0 ounce/acre at any growth stage, but application by flowering will reduce seed production potential.
Starthistle, malta, purple, and yellow: Apply Opensight at 1.5 to 2.0 ounce/acre to plants at the rosette through bolting growth stages.
Sulfur cinquefoil: Apply Opensight at 2.0 to 2.5 ounce/acre to plants in the prebud stage of development.
Thistle, Canada: Apply Opensight at 2.0 to 3.3 ounce/acre either in the spring or summer to fully emerged Canada thistle. The goal is to insure all plants have emerged and many of the thistles will be in the bud to early flower stage at this time. Applications are also effective in the fall before a killing frost. Use higher rates for older/dense stands or for longer residual control.
Thistles, Bull, musk, and plumeless: Apply Opensight at 1.0 to 2.0 ounce/acre in the spring and early summer to rosette or bolting plants or in the fall to seedlings and rosettes. Apply at 2.0 to 2.5 ounce/acre plus 0.5 lb ae/acre 2,4-D when plants are at the late bolt through early flowering growth stages.
Vervain: Apply 1.5 to 2.0 oz/acre of Opensight with 0.5 lb ae/acre (1 pint/acre of 4 lb ae/gallon 2,4-D) of 2,4-D.
Whitetop: Apply 3.3 ounce/acre early in the spring to actively growing rosettes or to regrowth before the bud stage. Treatment after bloom is generally less effective and the addition of 2,4- D at 1 lb ae/acre (2 pint/acre of 4 lb ae/gallon 2,4-D) is recommended. Treatments can also be made to fall regrowth before the first killing frost.
Wormwood, absinth: Apply 3.0 to 3.3 ounce/acre before wormwood is 12 inches tall. When applying by air on CRP, coverage is important and a minimum of 3 GPA is specified. Remove old duff and litter by fire or mowing for best results. Fall applications are also effective if green regrowth is present.

Woody Plant Control:
Apply Opensight at 3.3 ounce/acre at the timing described below in Table 2.

Table 2: Woody Plant Control with Opensight

Common Name	Scientific Name	Plant Family	Application Details
blackberry*	*Rubus spp*	Rosaceae	Apply when leaves are fully expanded and the plant has stopped rapid spring and early summer growth. Application after bloom and before frost is optimal. It is recommend that after mowing, shredding, or burning applications should wait until the next season and enough re-growth has occurred for good uptake and translocation..
buckbrush	*Symphoricarpos orbiculus*	Caprifoliaceae	Apply 2.0 to 3.0 oz/acre in spring or early summer when new growth is 6-12 inches tall. Add 0.5 to1 lb ae/acre of 2,4-D (1 to 2 pints/acre of 4 lb ae/gallon 2,4-D) to the lower rate.
dewberry*	*Rubus flagellaris*	Rosaceae	Apply when leaves are fully expanded and the foliage is dark green, either before first flower or after fruit drop. Application after fruit drop is preferred until frost. It is recommend that after mowing, shredding, or burning applications should wait until the next season and enough re-growth has occurred for good uptake and translocation..
honey locust	*Gleditsia triacanthos*	Fabaceae	Apply in spring when leaves are fully expanded and foliage is mature.
honeysuckle	*Lonicera japonica*	Caprifoliaceae	Apply in spring when leaves are fully expanded and foliage is mature.
kudzu	*Pueraria montana*	Fabaceae	Apply at or after bloom (July) in the summer until fall when the foliage begins to senesce. Kudzu should be actively growing; avoid treating when drought stressed.
locust, black	*Robinia pseudoacacia*	Fabaceae	Apply in spring when leaves are fully expanded and foliage is mature.
mimosa	*Albizia julibrissin*	Fabaceae	Apply after full leaf emergence in the spring until fall foliage color change.
redbud	*Cercis canadensis*	Fabaceae	Apply after full leaf emergence in the spring until fall foliage color change.
rose, Cherokee	*Rosa laevigata*	Rosaceae	Apply from full leaf through flowering. For best results, delay treatment for 9-12 months after mowing.
rose, multiflora	*Rosa multiflora*	Rosaceae	Apply from full leaf through flowering. For best results, delay treatment for 9-12 months after mowing.
rose, prairie wild	*Rosa arkansana*	Rosaceae	Apply from full leaf through flowering. For best results, delay treatment for 9-12 months after mowing.

Table 2: Woody Plant Control with Opensight (Cont.)

Common Name	Scientific Name	Plant Family	Application Details
snowberry, Western	*Symphoricarpos occidentalis*	Caprifoliaceae	Apply 3 oz/acre of Opensight alone or 2.0 to 3.0 oz/acre with 1 lb ae/acre of 2,4-D ester (2 pints/acre of 4 lb ae/gallon 2,4-D) in the spring when leaves are fully expanded and foliage is mature. Apply 3 oz/acre with 1 lb ae/acre of 2,4-D ester (2 pints/acre of 4 lb ae/gallon 2,4-D) from full leaf expansion up to the flowering stage.
wisteria	*Wisteria* brachybotrys	Fabaceae	Apply after full leaf emergence in the spring until fall foliage color change.
yucca‡	*Yucca glauca*	Agavaceae	Add 1 lb ai/acre of 2,4-D ester (2 pints/acre of 4 lb ae/gallon 2,4-D) to Opensight at 3.3 ounce/acre. Another option for additional woody plant control is Chaparall plus 1 pint/acre Remedy® Ultra. Make applications from flower stalk elongation through seed pod development. Crop oil concentrate (COC), Methylated Seed Oil (MSO) or Methylated Seed Oil/Organosilicone (MSO/OS) are the preferred adjuvants. Aerial application is recommended with a minimum of 4 gallons per acre volume for dense yucca populations.

‡: This symbol denotes weed suppression which is a reduction in weed competition compared to untreated areas. A second treatment may be necessary.

* This recommendation is for blackberry and dewberry control in bermudagrass or other non-sensitive grasses only. For control in tall fescue pastures, only apply Opensight as a spot treatment. For broadcast blackberry control in tall fescue pastures, use 1 pint/acre of Remedy Ultra + 2 pts/acre of ForeFront™ R&P

Opensight alone provides brush control for a number of woody/perennial species. In most situations, Opensight is added to brush control tank mixtures to improve control of the species listed below.

Control of Woody Species with Opensight Alone			
Common Name	**Scientific Name**	**Life Cycle**	**Plant Family**
ash	*Fraxinus spp.*	perennial	Oleaceae
aspen	*Populus tremuloides*	perennial	Salicaceae
camelthorn	*Alhagi pseudalhagi*	perennial	Fabaceae
cherry	*Prunus spp.*	perennial	Rosaceae
cottonwood	*Populus spp.*	perennial	Salicaceae
Eastern red cedar	*Juniperus virginiana*	perennial	Cupressaceae
elder	*Sambucus spp.*	perennial	Caprifoliaceae
elm	*Ulmus spp.*	perennial	Ulmaceae
firs	*Abies spp.*	perennial	Pinaceae
hawthorn	*Crataegusspp.*	perennial	Rosaceae
mulberry	*Morus spp.*	perennial	Moraceae
muscadine (wild grape)	*Muscadinia rotundifolia*	perennial	Vitaceae
oaks	*Quercus spp.*	perennial	Fagaceae
ocean spray	*Holodiscus discolor*	perennial	Rosaceae
osage orange	*Maclura pomifera*	perennial	Moraceae
maple, red	*Acer rubrum*	perennial	Aceraceae
salmonberry	*Rubus spectabilis*	perennial	Rosaceae
spruce, black	*Picea mariana*	perennial	Pinaceae
spruce, white	*Picea glauca*	perennial	Pinaceae
thimbleberry	*Rubus parviflorus*	perennial	Rosaceae
tree of heaven	*Ailianthus altissima*	perennial	Simaroubaceae
willow	*Salix spp.*	perennial	Salicaceae
poplar, yellow	*Liriodendron tulipifera*	perennial	Magnoliaceae

Selective Weed Control with tank mixes

Opensight is tank mix compatible with other selective herbicides such as Garlon 3A. Spot treatments using a tank mixture of Garlon 3A at 3% to 5 % v/v + Opensight at 20 oz product per 100 gallons of water (0.2 oz product/gallon water) + non-ionic surfactant, will control the following species, **in addition to species listed above,** without harming the grasses.

Control of Woody Species with Opensight in Tank Mixes			
Common Name	**Scientific Name**	**Life Cycle**	**Plant Family**
alder	*Alnus rubra*	perennial	Betulaceae
arrowweed	*Pluchea sericea*	perennial	Asteraceae
Australian pine	*Pinus nigra*	perennial	Pinaceae
bear clover (bearmat)	*Chamaebatia foliolosa*	perennial	Rosaceae
beech	*Fagus spp.*	perennial	Fagaceae
birch	*Betula spp.*	perennial	Betulaceae
blackgum	*Nyssa sylvatica*	perennial	Cornaceae
Brazilian pepper-tree	*Schinus terebinthifolius*	perennial	Anacardiaceae
cascara	*Rhamnus purshiana*	perennial	Rhamnaceae
ceanothus	*Ceanothus spp.*	perennial	Rhamnaceae
chinquapin	*Chrysolepis chrysophylla*	perennial	Fagaceae
choke cherry	*Prunus virginiana*	perennial	Rosaceae

Control of Woody Species with Opensight in Tank Mixes (Cont.)			
Common Name	**Scientific Name**	**Life Cycle**	**Plant Family**
dogwood	*Cornus spp.*	perennial	Cornaceae
Douglas-fir	*Psedotsuga menziesii*	perennial	Pinaceae
elderberry	*Sambucus spp.*	perennial	Adoxaceae
gallberry	*Ilex coriacea*	perennial	Aquifoliaceae
hazel	*Corylus spp.*	perennial	Betulaceae
hornbean	*Corylus spp.*	perennial	Betulaceae
madrone	*Arbutus menziesii*	perennial	Ericaceae
maple	*Acer spp.*	perennial	Aceraceae
mulberry	*Morus spp.*	perennial	Moraceae
persimmon	*Diospyros spp.*	perennial	Ebenaceae
pine	*Pinus spp.*	perennial	Pinaceae
poison ivy	*Toxicodendron radicans*	perennial	Anacardiaceae
poison oak	*Toxicodendron pubescens*	perennial	Anacardiaceae
poplar	*Populus spp.*	perennial	Salicaceae
coyote bush	*Baccharis pilularis*	perennial	Asteraceae
sassafras	*Sassafras spp.*	perennial	Lauraceae
Scotch broom	*Cytisus scoparius*	perennial	Fabaceae
sumac	*Rhus coriaria*	perennial	Anacardiaceae
sweetbay magnolia	*Magnolia virginiana*	perennial	Magnoliaceae
sweetgum	*Liquidambar spp.*	perennial	Altingiaceae
sycamore	*Platanus spp.*	perennial	Platanaceae
tanoak	*Lithocarpus densiflorus*	perennial	Fagaceae
wax myrtle	*Myrica spp.*	perennial	Myricaceae
Western hemlock	*Tsuga heterophylla*	perennial	Pinaceae
winged elm	*Ulmus alata*	perennial	Ulmaceae

Apply either with a low volume backpack or handgun (hose reel 7 hydralic spraygun). In all cases, use the amount specificed to provide uniform and complete coverage of the plants to be controlled. Total spray volume should not exceed 16 gallons of spray mix per acre.

Non-selective weed control with tank mixes
Opensight is tank mix compatible with non-selective herbicides such as Accord XRT II or Rodeo at 3 to 4 quarts per acre + a non-ionic surfactant at 0.25% v/v for control of grasses and many broadleaf woody species such as red oak, white oak, cherry, sweetgum, loblolly pine, red maple and yellow poplar.

Precautions for Avoiding Spray Drift

Avoid application under conditions that may allow spray drift because very small quantities of spray, which may not be visible, may injure susceptible crops. This product should be applied only when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, non-target crops and other plants) is minimal (e.g., when wind is blowing away from the sensitive areas. A drift control aid may be added to the spray solution to further reduce the potential for drift. If a drift control aid is used, follow the use directions and precautions on the manufacturer's label. Do not use a thickening agent with Microfoil, Thru-Valve booms, or other spray delivery systems that cannot accommodate thickened spray solutions.

Ground Equipment: With ground equipment spray drift can be lessened by keeping the spray boom as low as possible; by applying 10 gallons or more of spray per acre; by keeping the operating spray pressures at the manufacturer's specified minimum pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers); and by spraying when the wind velocity is low (follow state regulations). Avoid calm conditions which may be conducive to thermal inversions. Direct sprays no higher than the tops of target vegetation and keep spray pressures low enough to provide coarse spray droplets to minimize drift.

Aerial Application: Avoid spray drift at the application site. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. Users are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

1. The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 85% of rotor diameter.
2. Nozzles should be pointed backward parallel with the air stream or not pointed downwards more than 45 degrees.

State regulations must be followed.

The applicator should be familiar with and take into account the information covered in the following **Aerial Drift Reduction Advisory**. This information is advisory in nature and does not supersede mandatory label requirements.

Aerial Drift Reduction Advisory

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 specified 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 will provide uniform coverage.
- **Nozzle Orientation** - Orient nozzles so that the spray is released parallel to the airstream to produce larger droplets than other orientations. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length: The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 85% of rotor diameter.

Application Height: Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement

by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2 to 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 such as valleys and ravines 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 local, low level 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 the 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.

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. To the extent permitted by law, otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent permitted by law, Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

Limitation of Remedies

To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

To the extent permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

Produced for
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

Label Code: D02-372-005
Replaces Label: D02-372-004
LOES Number: 010-02200

EPA accepted 04/15/14

Revisions:

1. Updated the statement “Do not apply directly to water and take precautions to minimize spray drift onto water” to “Do not apply directly to water and take precautions to minimize overspray to open water when treating target vegetation in and around non-flowing, quiescent or transient water. When making applications to control unwanted plants on banks or shorelines of flowing water, minimize overspray to open water. Note: Consult local public water control authorities before applying this product in and around public water. Permits may be required to treat such areas” throughout the label.
2. Updated the statement “The field bioassay can be initiated at any time between harvest of the treated crop and the planting of the intended rotational crop” to “The field bioassay can be initiated one year after the last application of aminopyralid in that field” throughout the label and supplemental label.
3. Added statement and graphic for Northeastern states.
4. Updated trademark line.

SAFETY DATA SHEET
DOW AGROSCIENCES LLC

Product name: OPENSIGHT™ Herbicide

Issue Date: 05/04/2015
Print Date: 05/07/2015

DOW AGROSCIENCES LLC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: OPENSIGHT™ Herbicide

Recommended use of the chemical and restrictions on use
Identified uses: End use herbicide product

COMPANY IDENTIFICATION
DOW AGROSCIENCES LLC
9330 ZIONSVILLE RD
INDIANAPOLIS IN 46268-1053
UNITED STATES

Customer Information Number: 800-992-5994
info@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 800-992-5994
Local Emergency Contact: 352-323-3500

2. HAZARDS IDENTIFICATION

Hazard classification
This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.
Eye irritation - Category 2B
Carcinogenicity - Category 2

Label elements
Hazard pictograms

Signal word: **WARNING!**

Hazards
Causes eye irritation.
Suspected of causing cancer.

Precautionary statements

Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wash skin thoroughly after handling.
Use personal protective equipment as required.

Response
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.

Storage
Store locked up.

Disposal
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CASRN	Concentration
Aminopyralid Potassium	566191-87-5	62.13%
Metsulfuron-methyl	74223-64-6	9.45%
Titanium dioxide	13463-67-7	0.1%
Kaolin	1332-58-7	>= 0.2 - <= 5.2 %
Balance	Not available	>= 23.12 - <= 28.12 %

4. FIRST AID MEASURES

Description of first aid measures
General advice: If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

Skin contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Suitable emergency safety shower facility should be available in work area.

Eye contact: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice. Suitable emergency eye wash facility should be available in work area.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: May cause injury due to mechanical action. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers.

Unsuitable extinguishing media: no data available

Special hazards arising from the substance or mixture
Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Hydrogen chloride. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate. Dense smoke is produced when product burns.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires. Move container from fire area if this is possible without hazard. Contain fire water run-

off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. Spilled material may cause a slipping hazard. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Small spills: Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep out of reach of children. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Do not swallow. Avoid breathing dust or mist. Use with adequate ventilation. Good housekeeping and controlling of dusts are necessary for safe handling of product. Keep away from heat, sparks and flame.

Conditions for safe storage: Store in a dry place. Store in original container. Do not store near food, foodstuffs, drugs or potable water supplies.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Titanium dioxide	OSHA Z-1	TWA total dust	15 mg/m3
	ACGIH	TWA	10 mg/m3 , Titanium dioxide
Kaolin	ACGIH	TWA Respirable fraction	2 mg/m3
	OSHA Z-1	TWA total dust	15 mg/m3
	OSHA Z-1	TWA respirable fraction	5 mg/m3

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

Exposure controls
Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use chemical goggles.

Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Polyvinyl chloride ("PVC" or "vinyl"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, in dusty atmospheres, use an approved particulate respirator.
The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Granules.
Color	Brown
Odor	Mild
Odor Threshold	no data available
pH	10.3 1% *pH Electrode* (1% dispersion)
Melting point/range	No test data available
Freezing point	Not applicable
Boiling point (760 mmHg)	Not applicable
Flash point	**closed cup** Not applicable
Evaporation Rate (Butyl Acetate = 1)	Not applicable
Flammability (solid, gas)	no data available
Lower explosion limit	Not applicable

Upper explosion limit	Not applicable
Vapor Pressure	Not applicable
Relative Vapor Density (air = 1)	Not applicable
Relative Density (water = 1)	Not applicable
Water solubility	No test data available
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	Not applicable
Decomposition temperature	No test data available
Dynamic Viscosity	Not applicable
Kinematic Viscosity	Not applicable
Explosive properties	no data available
Oxidizing properties	no data available
Liquid Density	Not applicable
Bulk density	0.0007 kg/m3 *Literature*
Molecular weight	no data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: no data available

Chemical stability: Thermally stable at typical use temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Active ingredient decomposes at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible materials: Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Toxic gases are released during decomposition.

11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

Acute toxicity

Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product:
LD50, Rat, female, > 5,000 mg/kg

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product:
LD50, Rat, male and female, > 5,000 mg/kg

Acute inhalation toxicity
Inhalation is unlikely due to physical state. No adverse effects are anticipated from single exposure to dust.

LC50, Rat, male and female, 4 Hour, dust/mist, > 5.09 mg/l

Skin corrosion/irritation
Brief contact may cause moderate skin irritation with local redness.

Serious eye damage/eye irritation
May cause moderate eye irritation.
May cause slight corneal injury.
Solid or dust may cause irritation or corneal injury due to mechanical action.

Sensitization
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant information found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
For similar active ingredient(s).
Aminopyralid.
In animals, effects have been reported on the following organs:
Gastrointestinal tract.

Carcinogenicity
Lung fibrosis and tumors have been observed in rats exposed to titanium dioxide in two lifetime inhalation studies. Effects are believed to be due to overloading of the normal respiratory clearance mechanisms caused by the extreme study conditions. Workers exposed to titanium dioxide in the workplace have not shown an unusual incidence of chronic respiratory disease or lung cancer. Titanium dioxide was not carcinogenic in laboratory animals in lifetime feeding studies. For the active ingredient(s): Aminopyralid. Metsulfuron-methyl. Did not cause cancer in laboratory animals.

Teratogenicity
For the active ingredient(s): Aminopyralid. Metsulfuron-methyl. Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Reproductive toxicity
For the active ingredient(s): Aminopyralid. Metsulfuron-methyl. In animal studies, did not interfere with reproduction.

Mutagenicity

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

For the active ingredient(s): Metsulfuron-methyl. In vitro genetic toxicity studies were predominantly negative.

Aspiration Hazard
Based on physical properties, not likely to be an aspiration hazard.

Carcinogenicity

Component	**List**	**Classification**
Titanium dioxide	IARC	Group 2B: Possibly carcinogenic to humans

12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

Toxicity

Acute toxicity to fish
Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, > 120 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), semi-static test, 48 Hour, > 120 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate inhibition, 17.58 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to Above Ground Organisms
Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

oral LD50, Colinus virginianus (Bobwhite quail), > 2,250 mg/kg

Toxicity to soil-dwelling organisms
LC50, Eisenia fetida (earthworms), 14 d, survival, 2,000 mg/kg

Persistence and degradability

Aminopyralid Potassium
Biodegradability: For similar active ingredient(s). Aminopyralid. Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.
10-day Window: Fail

Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent

Metsulfuron-methyl
Biodegradability: No appreciable biodegradation is expected.

Titanium dioxide
Biodegradability: Biodegradation is not applicable.

Kaolin
Biodegradability: Biodegradation is not applicable.

Balance
Biodegradability: No relevant data found.

Bioaccumulative potential
Bioaccumulation: No data available.

Mobility in soil

Aminopyralid Potassium
For similar active ingredient(s).
Aminopyralid.
Potential for mobility in soil is very high (Koc between 0 and 50).

Metsulfuron-methyl
No data available.

Titanium dioxide
No data available.

Kaolin
No relevant data found.

Balance
No relevant data found.

13. DISPOSAL CONSIDERATIONS

Disposal methods: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

Not regulated for transport

Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code

Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Acute Health Hazard
Chronic Health Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

Pennsylvania (Worker and Community Right-To-KnowAct): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:
The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Components	**CASRN**
Titanium dioxide	13463-67-7
Kaolin	1332-58-7

Pennsylvania (Worker and Community Right-To-KnowAct): Pennsylvania Special Hazardous Substances List:
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

United States TSCA Inventory (TSCA)
This product contains chemical substance(s) exempt from U.S. EPA TSCA Inventory requirements. It is regulated as a pesticide subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements.

Federal Insecticide, Fungicide and Rodenticide Act
EPA Registration Number: 62719-597
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

WARNING

Causes substantial but temporary eye injury
Harmful if swallowed

16. OTHER INFORMATION

Hazard Rating System
NFPA

Health	Fire	Reactivity
1	1	0

Revision
Identification Number: 101188048 / A211 / Issue Date: 05/04/2015 / Version: 4.0
DAS Code: GF-2050
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
TWA	8-hour, time-weighted average

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW AGROSCIENCES LLC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

POLARIS AC

GROUP 2 HERBICIDE

Nufarm

Polaris® AC Complete Herbicide

For control of undesirable vegetation growing within certain aquatic sites, forestry sites, pasture/rangeland, nonagricultural lands, establishment and maintenance of wildlife openings, release of unimproved Bermudagrass and Bahiagrass, bareground weed control, for use under certain paved areas, industrial noncropland areas including railroad, utility, pipeline and highway rights-of-way, utility plant sites, petroleum tank farms, pumping installations, fence rows, storage areas, non-irrigation ditchbanks including grazed or hayed areas within these sites, roads and transmission lines.

ACTIVE INGREDIENT:

Isopropylamine salt of Imazapyr (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid)*	53.10%
OTHER INGREDIENTS:	46.90%
TOTAL:	100.00%

*Equivalent to 43.3% 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid or 4 pounds acid per gallon.

Have the product container label with you when calling a poison control center or doctor or going for treatment.

In the State of New York, Aquatic Uses are Not Allowed.

KEEP OUT OF REACH OF CHILDREN

CAUTION / PRECAUCION

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 NEXT PAGE FOR ADDITIONAL PRECAUTIONARY STATEMENTS

EPA Reg. No. 228-570

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300
For Medical Emergencies Only, Call (877) 325-1840

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Net Contents
1 Qt.
(946 mL)

Manufactured for Nufarm Americas Inc.
11901 S. Austin Avenue | Alsip, IL 60803

Nufarm

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS
CAUTION / PRECAUCION

No human or domestic animal hazard statements are required. Follow the instructions for Personal Protective Equipment and User Safety Recommendations.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Mixers, loaders, applicators and other handlers must wear:

- Long-sleeved shirt and long pants,
- Shoes plus socks
- Chemical-resistant gloves for mixers and loaders, plus applicators using handheld equipment.

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. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

Engineering Controls

Pilots must use an enclosed cockpit that meet the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d) (6)].

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing.
- User should remove clothing/PPE immediately if pesticide gets inside.

ENVIRONMENTAL HAZARDS

This product is toxic to plants. Drift and run-off may be hazardous to plants in water adjacent to treated areas. Do not apply to water except as specified in this label. Treatment of aquatic weeds may result in oxygen depletion or loss to decomposition of dead plants. Do not treat more than one half the surface area of the water in a single operation and wait at least 10 to 14 days between treatments. Begin treatments along the shore and proceed outward in bands to allow aquatic organisms to move into untreated areas. Do not contaminate water when disposing of equipment; washwaters or rinsate. This pesticide is toxic to vascular plants and must be used strictly in accordance with the drift precautions of the label.

PHYSICAL AND CHEMICAL HAZARDS

Spray solutions of this product should be mixed, stored, and applied only in stainless steel, fiberglass, plastic, and plastic-lined steel containers.

Do not mix, store, or apply this product or spray solutions of this product in unlined steel (except stainless steel) containers or spray tanks.

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.

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 48 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
- shoes plus socks
- chemical-resistant gloves made of any waterproof material
- protective eyewear

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses. Do not enter or allow others to enter treated areas until sprays have dried.

PRODUCT INFORMATION

This product is an aqueous solution to be mixed with water and a surfactant and applied as a spray solution to control undesirable vegetation growing within certain aquatic sites, forestry sites, pasture/rangeland, and nonagricultural lands. Aquatic sites consist of standing and flowing water, estuarine/marine, wetland, and riparian areas. Nonagricultural lands include private, public and military land as follows: uncultivated nonagricultural areas (including airports, highway, railroad and utility rights of way and sewage disposal areas), uncultivated agricultural areas – noncrop producing (including farmyards, fuel storage areas, fence rows, nonirrigation ditch banks and barrier strips), industrial sites – outdoor (including lumber yards, pipeline and tank farms) and natural areas (including wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads, and trails). This product may also be used for the release of unimproved Bermudagrass and Bahiagrass, for bareground weed control, and for use under certain paved surfaces.

Herbicidal Activity: This product will control most annual and perennial grasses and broadleaf weeds in addition to many brush and vine species with some residual control of undesirable species that germinate above the waterline. This product is readily absorbed through emergent leaves and

stems and is translocated rapidly throughout the plant, with accumulation in the meristematic regions. For maximum activity, weeds should be growing robustly at the time of application, and the spray solution should include a surfactant (see **ADJUVANTS** section for specific use directions). Treated plants stop growing soon after spray application. Chlorosis appears first in the newest leaves, and necrosis spreads from this point. In perennials, the herbicide is translocated into, and kills, underground or submerged storage organs, which prevents regrowth. Chlorosis and tissue necrosis may not be apparent in some plant species until two or more weeks after application. Complete kill of plants may not occur for several weeks. Applications of this product are rainfast one hour after treatment.

RESTRICTIONS and LIMITATIONS

DO NOT use on food or feed crops.
DO NOT apply this product to water within 0.5 miles upstream of an active potable water intake in flowing water (i.e. river, stream, etc.) or within 0.5 miles of an active potable water intake in a standing body of water, such as a lake, pond or reservoir.
DO NOT apply to water used for irrigation except as described in USE PRECAUTIONS AND RESTRICTIONS section of this label.
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 treated soil 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 unless severe injury and plant death can be tolerated. Prevent drift of spray to desirable plants.
Clean application equipment after using this product by thoroughly flushing with water.

Nonagricultural Lands and Forestry Sites

- DO NOT apply more than 1.5 pounds acid equivalent Imazapyr (equivalent to 6 pints) per acre per year.

Pasture/Rangeland Sites

- DO NOT apply more than 0.75 pound acid equivalent Imazapyr (equivalent to 3 pints) per acre per year.
- DO NOT treat more than 1 /10 of the available area to be grazed or cut for hay.
- For spot treatment only.

Aquatic Sites

- DO NOT apply more than 1.5 pounds acid equivalent Imazapyr (equivalent to 6 pints) per acre per year.
- **No Application to Aquatic Sites in New York State.**

Aerial application - Aerial application to aquatic sites is restricted to helicopter only.

Irrigation water - Application to water used for irrigation that results in residues greater than 1.0 part per billion (ppb) MUST NOT be used for irrigation purposes for 120 days after application or until residue levels of this product are determined by laboratory analysis or other appropriate means of analysis to be 1.0 ppb or less. When applications are made within 500 feet of an active irrigation intake, DO NOT irrigate for at least 24 hours following application to allow for dissipation.

Quiescent or Slow-moving Waters - In lakes and reservoirs, DO NOT apply this product within 1 mile of an active irrigation water intake during the irrigation season. Applications less than 1 mile from an active irrigation water intake may be made during the off-season, provided that the irrigation intake will remain inactive for a minimum of 120 days after application or until residue levels of this product are determined by laboratory analysis or other appropriate means of analysis to be 1.0 ppb or less.

Restrictions for potable water intakes - DO NOT apply this product directly to water within 0.5 miles upstream of an active potable water intake in flowing water (i.e. river, stream, etc.) or within 0.5 miles of an active potable water intake in a standing body of water such as a lake, pond or reservoir. To make aquatic applications around and within 0.5 miles of active potable water intakes, the water intake must be turned off during application and for a minimum of 48 hours after the application. These aquatic applications may be made only in the cases where there are alternative water sources or holding ponds that would permit the turning off of an active potable water intake for a minimum period of 48 hours after the applications.

NOTE: Existing potable water intakes that are no longer in use, such as those replaced by connections to wells or a municipal water system, are not considered to be active potable water intakes. This restriction does not apply to intermittent, inadvertent overspray of water in terrestrial use sites.

Permitting - Consult local state fish and game agency and water control authorities before applying this product to public water. Permits may be required to treat such water.

Public waters - Application of this product to water can only be made by federal or state agencies, such as Water Management District personnel, municipal officials, and the U.S. Army Corps of Engineers, or those applicators who are licensed or certified as aquatic pest control applicators and are authorized by the state or local government. Treatment to other than non-native invasive species is limited to only those plants that have been determined to be a nuisance by a federal or state government entity.

Private waters - Applications may be made to private waters that are still, such as ponds, lakes and drainage ditches where there is minimal or no outflow to public waters.

Recreational use of water in treatment area - There are no restrictions on the use of water in the treatment area for recreational purposes, including swimming and fishing.

Livestock use of water in/from treatment area - There are no restrictions on livestock consumption of water from the treatment area.

Precautions for Avoiding Injury to Nontarget Plants

Untreated desirable plants can be affected by root uptake of this product from treated soil. Injury or loss of desirable plants may result if this product is applied on or near desirable plants, on areas where their roots extend, or in locations where the treated soil may be washed or moved into contact with their roots. When making applications along shorelines where desirable plants may be present, caution should be exercised to avoid spray contact with their foliage or spray application to the soil in which they are rooted. Shoreline plants that have roots that extend into the water in an area where this product has been applied generally will not be adversely affected by uptake of the herbicide from the water.

If treated vegetation is to be removed from the application site, DO NOT use the vegetative matter as mulch or compost on or around desirable species.

MANAGING OFF-TARGET MOVEMENT

Aerial Application

- Applicators are required to use coarse or coarser droplet size (ASABE S572) or if specifically using a spinning atomizer, nozzle applicators are required to use a volume mean diameter (VMD) of 385 microns or greater for release heights below 10 feet. Applicators are required to use a very coarse or coarser droplet size or if specifically using a spinning atomizer nozzle, applicators are required to use a VMD of 475 microns or greater

for release heights above 10 feet. Applicators must consider the effects of nozzle orientation and flight speed when determining droplet size.

- Applicators are required to use upwind swath displacement.
- The boom length must not exceed 60% of the wingspan or 90% of the rotor blade diameter to reduce spray drift.
- Applications with wind speeds less than 3 mph and with wind speeds greater than 10 mph are prohibited. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.
- Applications into temperature inversions are prohibited.

Ground Boom Application

- Applicators are required to use a nozzle height below 4 feet above the plant canopy or the ground and coarse or Coarser droplet size (ASABE S572) or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater.
- Applications with wind speeds greater than 10 mph are prohibited.
- Applications into temperature inversions are prohibited.

WIND EROSION

Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.

ADJUVANTS

Post-emergence applications of this product require the addition of a spray adjuvant for optimum herbicide performance. Only spray adjuvants that are approved or appropriate for aquatic use can be utilized. The addition of a Chemical Producers and Distributors Associations (CPDA) certified adjuvant can increase control. A CPDA certified drift control agent may also be used.

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 with 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 product deposition and uptake by plants under moisture or temperature stress.

Silicone Based Surfactants: See manufacturer's label for specific rate recommendations. Silicone-based surfactants may reduce the surface tension of the spray droplet, 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.

Invert emulsions: This product can be applied as an invert emulsion. The spray solution results in an invert (water-in-oil) spray emulsion designed to minimize spray drift and spray run-off, resulting in more herbicide on the target foliage. The spray emulsion may be formed in a single tank (batch mixing) or injected (in-line mixing). Consult the invert chemical label for proper mixing directions. Do not apply more than 3 pints of this product per acre in an invert emulsion.

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.

Other: An antifoaming agent, spray pattern indicator or drift reducing agent may be applied at the product labeled rate if necessary or desired.

TANK MIXES

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.

APPLICATION METHODS

This product may be selectively applied by using low volume directed application techniques or may be broadcast applied using ground equipment, watercraft, or aircraft. Aerial applications to aquatic sites must be made by helicopter. In addition, this product may also be applied using cut stump, cut stem, and frillor girdle treatment techniques within nonagricultural lands, pasture/rangeland and aquatic sites. See AERIAL APPLICATION and GROUND APPLICATION sections for additional details.

COMPATIBILITY

Before full-scale mixing of this product with other pesticides, emulsifiers, fertilizers, surfactants or oils, determine the compatibility of the proposed mixture. Use proportionate quantities of each ingredient and mix in a small container. Always mix one product thoroughly with the diluent before adding another product. If no incompatibility is evident after 30 minutes, the mixture

is generally compatible for spraying. To evaluate potential short term effects of applying the mixture, test the tank mix combination on a few plants or a small area before larger-scale treatments. Wait at least 2 to 3 days for problems to become apparent.

IMPORTANT: MIXING WITH OTHER SUBSTANCES MAY INCREASE THE RISK OF MIXING INCOMPATIBILITIES, REDUCED EFFECTIVENESS AND/OR CAUSE CROP INJURY OR LOSS. ANY LIABILITY FOR LOSS, INJURY OR DAMAGE RESULTING FROM A MIXTURE NOT SPECIFIED ON THIS LABEL OR IN MANUFACTURER'S SUPPLEMENTAL LABELING DISTRIBUTED FOR THIS PRODUCT IS SPECIFICALLY DISCLAIMED BY MANUFACTURER.

AERIAL APPLICATION

All precautions must be taken to minimize or eliminate spray drift. Both helicopter and fixed wing aircraft can be used to apply this product, but applications to aquatic sites are restricted to helicopter only. DO NOT make applications by helicopter or fixed wing aircraft unless appropriate buffer zones can be maintained to prevent spray drift out of the target area, or when spray drift as a result of helicopter application can be tolerated. Aerial equipment designed to minimize spray drift such as a helicopter equipped with a Microfoil™ boom Thru-Valve™ boom or raindrop nozzles must be used and calibrated. Except when applying with a Microfoil boom, a drift control agent may be added at the specified label rate. DO NOT side trim with this product unless death of treated tree can be tolerated.

Uniformly apply the specified amount of this product in 2 to 30 gallons of water per acre. A foam reducing agent may be added at the specified label rate.

Immediately after each use of this product thoroughly clean application equipment, including landing gear. Uncoated steel surfaces (except stainless steel surfaces) may result in corrosion and failure after prolonged exposure to the product. The maintenance of an paint (organic coating) may prevent corrosion.

GROUND APPLICATION

Low Volume Foliar:

Use equipment calibrated to deliver 5 to 20 gallons of spray solution per acre. To prepare the spray solution, thoroughly mix in water 0.25 to 2.5% of this product plus surfactant (see the ADJUVANTS section of this label for specific recommendations). A foam reducing agent may be applied at the label rate, if needed. For control of difficult species (see AQUATIC WEEDS CONTROLLED section and the TERRESTRIAL WEEDS CONTROLLED section for relative susceptibility of weed species), use the higher concentrations of herbicide and/or spray volumes but DO NOT apply more than 3 quarts of this product per acre in aquatic sites and nonagricultural lands and 1-5 quarts per acre in pasture/rangeland. Excessive wetting of foliage is not necessary.

For low volume foliar application, select proper nozzles to avoid over-application. Proper application is critical to ensure desirable results. Best results are achieved when the spray covers the crown and approximately 70% of the plant. The use of an even flat fan tip with a spray angle of 40 degrees or less will aid in proper deposition.

Appropriate tip sizes include 4004E, or 1504E. For a straight stream and cone pattern, adjustable cone nozzles such as 5500 X3 or 5500 X4 may be used. Attaching a rollover valve onto a Spraying Systems Model 30 gunjet or other similar spray guns allows for the use of both a flat fan and cone tips on the same gun.

Moisten, but DO NOT drench target vegetation causing spray solution to run off.

Low Volume Foliar with Backpacks:
For low-growing species, spray down on the crown, covering crown and penetrating approximately 70% of the plant.

For target species 4 to 8 feet tall, swipe the sides of target vegetation by directing spray to at least two sides of the plant in smooth vertical motions from the crown to the bottom. Make sure to cover the crown whenever possible.

For target species over 8 feet tall, lace sides of the target vegetation by directing spray to at least two sides of the target in smooth zigzag motions from crown to bottom.

Low Volume Foliar with Hydraulic Handgun Application Equipment:
Use same technique as described above for Low Volume Foliar with Backpacks.

For broadcast applications, simulate a gentle rain near the top of target vegetation, allowing spray to contact the crown and penetrate the target foliage without falling to the understory. Herbicide spray solution which contacts the understory may result in severe injury or death of plants in the understory.

High Volume Foliar:
For optimum performance when spraying medium to high-density vegetation, use equipment calibrated to deliver up to 100 gallons of spray solution per acre (GPA). Spray solutions exceeding 100 GPA may result in excessive spray run-off, causing increased ground cover injury, and injury to desirable species.

To prepare the spray solution, thoroughly mix this product in water and add a surfactant (see ADJUVANT section for specific recommendations and rates of surfactants). A foam-reducing agent may be added at the label rate, if needed. For control of difficult species (see AQUATIC WEEDS CONTROLLED section and the ADDITIONAL WEEDS CONTROLLED section for relative susceptibility of weed species), use the higher concentrations of herbicide and/or spray volumes, but DO NOT apply more than 3 quarts of this product per acre in aquatic sites and nonagricultural lands, and 1-5 quarts per acre in pasture/rangeland. Uniformly cover the foliage of the vegetation to be controlled but DO NOT apply to run-off. Excessive wetting of foliage is not necessary.

SIDE TRIMMING

Do not side trim with this product unless severe injury or death of the treated tree can be tolerated. This product is readily translocated and can result in death of the entire tree.

CUT SURFACE TREATMENTS

This product may be used to control undesirable woody vegetation by applying the product solution to the cambium area of freshly cut stump surfaces or to fresh cuts on the stem of the target woody vegetation. Applications can be made at any time of the year except during periods of heavy sap flow in the spring. Do not over apply solution causing run-off from the cut surface.

Injury may occur to desirable woody plants if the shoots extend from the same root system or their root systems are grafted to those of the treated tree.

This product may be mixed as either a concentrated or dilute solution for stump and cut stem treatments. The dilute solution may be used for applications to the surface of the stump or to cuts on the stem of the target

woody vegetation. Concentrated solutions may be used for applications to cuts on the stem. Use of the concentrated solution permits application to fewer cuts on the stem, especially for large diameter trees. Follow the application instructions to determine proper application techniques for each type of solution.

To prepare a dilute solution, mix 4 to 6 fluid ounces of this product with one gallon of water. If temperatures are such that freezing of the spray mixture may occur, antifreeze (ethylene glycol) may be used according to manufacturer's label to prevent freezing. The use of a surfactant or penetrating agent may improve uptake through partially callused cambiums. To prepare a concentrated solution, mix 1 quart of this product with no more than 1 quart of water.

CUT STUMP TREATMENT

Dilute Solution - Spray or brush the solution onto the cambium area of the freshly cut stump surface. Insure that the solution thoroughly wets the entire cambium area (the wood next to the bark of the stump).

CUT STEM TREATMENT
(injection, hack-and-squirt)

Dilute Solutions - Using standard injection equipment, apply 1 milliliter of solution at each injection site around the tree with no more than one-inch intervals between cut edges. Insure that the injector completely penetrates the bark at each injection site.

Concentrate Solutions - Using standard injection equipment, apply 1 milliliter of solution at each injection site. Make at least one injection cut for every 3 inches of Diameter at Breast Height (DBH) on the target tree. For example, a 3-inch DBH tree will receive 1 injection cut and a 6-inch DBH tree will receive 2 injection cuts. On trees requiring more than one injection site place the injection cuts at approximately equal intervals around the tree.

CUT STUBBLE

This product can be applied within 2 weeks after mechanical mowing or cutting of brush. To suppress or control resprouting, uniformly apply a spray solution of this product at the rate of 0.5 to 1.0 pints per acre to the cut area. This product may be tank-mixed with picloram (such as Trooper 22K), or equivalent labeled product for this use, to aid in control or suppression of brush. The addition of 5% (v/v) or more of a penetrating agent can aid in uptake through the bark or exposed roots.

Cut stubble applications are made to the soil and cut brush stumps. This type of application may increase ground cover injury. However, vegetation will recover. Making applications of this product directly to the soil can increase potential root uptake causing injury or death of desirable trees.

Efficacy can be increased and root uptake by desirable vegetation can be decreased if the brush is allowed to regrow and the foliage is treated. See the Brush Control section of this label.

FRILL OR GIRDLE TREATMENT

Using a hatchet, machete, or chain saw, make cuts through the bark and completely around the tree to expose the cambium. The cut should angle downward extending into the cambium enough to expose at least two growth rings. Using a spray applicator or brush, apply a 12.5 to 50% solution of this product into each cut until thoroughly wet. Avoid applying so much herbicide that runoff to the ground or water occurs.

BASAL APPLICATION

This product is an aqueous formulation that requires mixing with **basal oil containing at least 15% emulsifier or will require the addition of an emulsifier, for application to the basal area** of brush and trees to control undesirable vegetation in the following noncropland areas: access roads; airfields; airports; along forest roads; around commercial or industrial

structures or outbuildings; around farm and ranch structures and outbuildings; bare ground; construction sites; ditch banks; dry ditches & canals; fences & fencerows; firebreaks; gravel yards; habitat restoration & management areas; highways & roadsides (including aprons, medians, guardrails & right of ways); industrial plant sites; industrial areas; lumber yards; natural areas; paved areas; petroleum & other tank farms; pumping installations; pipeline, power, telephone & utility rights-of-way; power stations; railroad rights-of way; refineries; resorts; storage areas; substations; uncropped farmstead areas; uncultivated non-agricultural areas; vacant lots; walkways; wastelands; & wildlife habitat areas.

Thinline Basal and Stem Application

- This product may be applied as a thinline basal or arcing application to the stems of susceptible species such as big leaf maple (*Acer macrophyllum*), willow (*Salix* spp.) and Eucalyptus (*Eucalyptus* spp.) with a stem ground line diameter of 3 inches or less. Mix 12 to 24 ounces of this product in one gallon of **basal oil containing at least 15% emulsifier**. Maintain uniform mixtures with frequent agitation. Direct a thin line of the spray solution to the stems beginning a few feet from the ground and descending toward the base of the tree making a zig-zag motion. Do not over apply causing puddling.

Low Volume Basal Bark Treatments

- This product, at the rate of 4 to 6 ounces per gallon, may be applied for low volume basal bark treatments. This product at 1.5 to 2.5% is recommended to be tank mixed with Relegate™ or Garlon® 4 or other basal products to broaden the spectrum of control. Consult the herbicide labels for rates and susceptible brush species. Mixing with basal requires compatibility tests prior to mixing large quantities. Mixing aids (such as emulsifiers, etc.) and ongoing agitation are required to attain a homogenous tank mix.

- Basal application should be made to the lower 12” to 18” of the target brush and go to the soil. Care should be taken to not puddle or over treat the stem. Basal application is best suited for low density brush sites, where stems do not exceed 700 stems per acre.

For Basal Application – It is advisory to mix only the intended amount of mixture that is to be sprayed that day. Adequate agitation must be maintained with all emulsion mixtures to prevent phase separation. Prior to tank mixing with other products, herbicides and oils, you must determine the compatibility of the proposed mixture (See **COMPATIBILITY** section).

SPRAY SOLUTION MIXING GUIDE						
AMOUNT OF SPRAY SOLUTION BEING PREPARED	**NUFARM POLARIS AC COMPLETE ALONE**		**NUFARM POLARIS AC COMPLETE WHEN TANK MIXING**		**RELEGATE or GARLON 4**	
	4.0 oz	6.0 oz.	1.5%	2.5%	15%	20%
1 Gallon	4.0 oz.	6.0 oz.	1.9 oz.	3.2 oz.	1.2 pts.	1.6 pts.
3 Gallons	12.0 oz.	18.0 oz.	5.75 oz.	9.6 oz.	1.8 qts.	2.4 qts.
4 Gallons	1.0 pt.	1.5 pts.	7.7 oz.	12.8 oz.	2.4 qts.	3.2 qts.
5 Gallons	1.25 pts.	1.0 pt. + 14.0 oz.	9.6 oz.	1.0 pt.	3.0 qts.	1.0 gal.
50 Gallons	1.5 gals. + 8.0 oz.	2.0 gals. + 2.75 pts.	3.0 qts.	1.25 gals.	7.5 gals.	10.0 gals.
100 Gallons	3.0 gals. + 1.0 pt.	4.0 gals. + 2.75 qts.	1.5 gals.	2.5 gals.	15.0 gals.	20.0 gals.
16 ounces = 1 pint : 2 pints = 1 quart : 4 quarts = 1 gallon						

FORESTRY USE

SITE PREPARATION TREATMENT

This product may be used to control labeled actively growing grasses, broadleaf weeds, vines and brambles, and woody brush and trees on forest sites in advance of regeneration for the following conifer crop species:

Crop Species	Rate (oz./A)
Loblolly Pine (*Pinus taeda*)	24 - 40
Loblolly X Pitch Hybrid	24 - 40
Longleaf Pine (*Pinus palustris*)	24 - 40
Shortleaf Pine (*Pinus echinata*)	24 - 40
Virginia Pine (*Pinus virginiana*)	24 - 40
Slash Pine (*Pinus elliottii*)	20 - 32
Douglas-Fir (*Pseudotsuga menziesii*)	12 - 24
Coastal Redwood (*Sequoia sempervirens*)	12 - 24
Incense cedar (*Libocedrus decurrens*)	12 - 24
Western Hemlock (*Tsuga heterophylla*)	12 - 24
California Red Fir (*Abies magnifica*)	12 - 20
California White Fir (*Abies concolor*)	12 - 20
Jack Pine (*Pinus banksiana*)	12 - 16
Lodgepole Pine (*Pinus contorta*)	12 - 16
Pitch Pine (*Pinus rigida*)	12 - 16

(continued)

SITE PREPARATION TREATMENT *(continued)*

Crop Species	Rate (oz./A)
Ponderosa Pine (*Pinusponderosa*)	12 - 16
Sugar Pine (*Pinus lambertiana*)	12 - 16
White Pine (*Pinus strobus*)	12 - 16
Black Spruce (*Picea mariana*)	12 - 16
Red Spruce (*Picea rubens*)	12 - 16
White Spruce (*Picea glauca*)	12 - 16

Use the specified rate of this product per acre applied as a broadcast foliar spray for long-term control of labeled woody plants and residual control of herbaceous weeds. Within 4 to 6 weeks of treatment, grasses and other herbaceous weeds will be controlled and may provide fuel to facilitate a site preparation burn, if desired, to control conifers or other species tolerant to the herbicide.

Apply the specified rate of this product per acre in 5 to 30 gallons total spray solution for helicopter applications or 5 to 100 gallons total spray solution for mechanical ground spray and backpack applications. Use a minimum of 1/4 percent by volume nonionic surfactant. Use the higher label rates of this product and higher spray volumes when controlling particularly dense or multilayered canopies of hardwood stands, or difficult to control species.

Tank mixes may be necessary for chemical control of conifers and other species tolerant to this product in certain cases. Always follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Combinations with other products labeled for forest site preparation may kill certain plants such as legumes and blackberry which are desirable for wildlife habitat.

Where quick initial brown out (deadening of foliage) is desired for burning, apply a tank mixture of this product with triclopyr (such as Tahoe®) or other products registered for this use at specified label rates per acre. For control of seedling pines, apply this product with glyphosate (such as AquaNeat® or Razor Pro®) or other products registered for this use at specified label rates. For site preparation, rates less than the specified label rates of this product will provide suppression of hardwood brush and trees, and some re-sprouting may occur.

Do not plant seedlings of black spruce (*Picea mariana*) or white spruce (*Picea glauca*) on sites that have been broadcast treated with this product or into the treated zone of spot or banded applications for three months following application or injury may occur.

HERBACEOUS WEED CONTROL

Use this product for selective weeding in the following conifers:

Crop Species	**Rate (fl. oz./A)**
Loblolly Pine (*Pinus taeda*)	4 - 6
Loblolly X Pitch Hybrid	6 - 10
Virginia Pine (*Pinus virginiana*)	6 - 10
Longleaf Pine (*Pinus palustris*) [1]	4 - 6
Shortleaf Pine (*Pinus echinata*) [1]	4 - 6
Slash Pine (*Pinus elliottii*) [1]	4 - 6
Douglas-Fir (*Pseudotsuga menziesii*) [1]	4 - 6

[1]Use of surfactant is not recommended.

This product may be applied as a broadcast treatment, banded over tree rows, or as a directed spray for release of young conifers from herbaceous weeds. To prevent possibility of conifer injury, do not apply this product when conifers are under stress from drought, diseases, animal or winter injury, planting shock, or other stresses reducing conifer vigor. Broadcast applications may be made by helicopter, ground, or backpack sprayer. For difficult to control weeds, use the higher labeled rates. Where herbaceous weeds have overtopped conifer seedlings, a nonionic surfactant may be added to improve weed control (except for slash pine, long-leaf pine, and Douglas-fir), at a rate not to exceed 1/4 percent of spray solution volume. Some minor conifer growth inhibition may be observed when herbaceous weed control treatments are made during periods of active conifer growth.

This product may also be applied using backpack or hand-held sprayers to control herbaceous weeds around individual conifer seedlings. Mix 0.4 to 0.6 fluid ounces of this product and 0.2 fluid ounces nonionic surfactant per gallon of water. Direct the spray to the weeds and minimize the amount applied to conifer foliage for best conifer tolerance. Ensure that maximum labeled rates per acre listed for crop species above are not exceeded.

This product may be tank mixed with a sulfometuron-methyl product to broaden the spectrum of weeds controlled. Always follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. For loblolly pine, apply 4 to 6 fluid ounces of this product plus a sulfometuron-methyl product at the specified label rate per acre. The application of this product plus a sulfometuron-methyl product at the specified label rates on other conifer species may cause growth suppression.

CONIFER RELEASE TREATMENTS

This product may be applied as a broadcast or directed spray application for suppression of labeled brush, tree, and herbaceous weed species.

Directed spray applications may be made with low-volume applications in conifer stands of all ages by targeting the unwanted vegetation and avoiding direct application to the conifer. Ensure that maximum labeled rates per acre listed for crop species below are not exceeded.

Use broadcast applications of this product for release of the following conifers from hardwood competition:

Crop Species	**Rate (f l. oz./Acre)**
Loblolly Pine (*Pinus taeda*) [3]	12 - 20
Loblolly X Pitch Hybrid [3]	12 - 20
Virginia Pine (*Pinus virginiana*) [3]	12 - 20
Longleaf Pine (*Pinuspalustris*)	12 - 16
Pitch Pine (*Pinus rigida*)	12 - 16
Shortleaf Pine (*Pinus echinata*)	12 - 16
Slash Pine (*Pinus elliottii*)	12 - 16
White Pine (*Pinus strobus*) [1]	8 - 16
California Red Fir (*Abies magnifica*)	8 - 12
California White Fir (*Abies concolor*)	8 - 12
Lodgepole Pine (*Pinus contorta*) [2]	8 - 12
Douglas-Fir (*Pseudotsuga menziesii*) [2]	8 - 12
Jack Pine (*Pinus banksiana*) [2]	6 - 12
Black Spruce (*Picea mariana*) [2]	6 - 12
Red Spruce (P*icea rubens*) [2]	6 - 12
White Spruce (*Picea glauca*) [2]	6 - 12

[1] Do not make applications to white pine stands younger than three years old. To minimize potential white pine injury, release treatments should not be made prior to July 15.

[2] Applications should be made after formation of final conifer resting buds in the fall or height growth inhibition may occur.

[3] Mid-rotation release: For broadcast applications below the pine canopy in established stands of loblolly pine, loblolly X pitch hybrid, and Virginia pine use 16 to 32 fluid ounces product per acre. For mid-rotation release of other species use rates listed above.

Apply the specified rate of this product per acre when making broadcast applications with helicopter or ground spray equipment. Refer to mixing and application instructions for proper spray volumes. A nonionic surfactant may be added at no more than 1/4 percent by volume.

Use the higher label rates of this product when controlling particularly dense stands or difficult to control species. Some minor conifer growth inhibition may be observed when release treatments are made during periods of active conifer growth. To minimize potential conifer height growth inhibition, do not make broadcast applications to conifer stands, except loblolly pine, before the end of the second growing season. To minimize potential conifer height growth inhibition, broadcast release treatments may be made late in the growing season. To prevent possibility of conifer injury, Do not apply this product when conifers are under stress from drought, diseases, animal or winter injury, or other stresses reducing conifer vigor.

This product may be used to release loblolly pine seedlings during the first growing season following planting or for one-year-old natural loblolly pine regeneration. For one-year-old loblolly pine release, apply 12 to 20 fl. oz./A of this product after July 15. The use of rates below 16 fl. oz./A is intended for hardwood growth suppression and some hardwood resprouting should be expected.

FOR SLASH PINE AND LONGLEAF PINE, broadcast release treatments over the top of pines for the purpose of woody plant control must be made after August 15 and only in stands 2 through 5 years old. For applications over the top of slash pine and longleaf pine, do not add surfactant and use lower labeled rates on sandy soils.

FOR THE AERIAL RELEASE TO SLASH PINE (*PINUS ELLIORTII*) STANDS OVER THE AGE OF 5 YEARS This product may be applied as an aerial application for release of slash pine stands over the age of 5 years. In addition to reading and following all directions in this product, the following precautions and restrictions are required:

- Make applications in the fall after slash pine height growth has stopped and buds have set.
- Do not apply before September 15 even if height growth has stopped and buds have set.
- A maximum of 12 to 14 fl. oz./A of this product may be applied. Use the 12 fl. oz./A rate on sandier sites.

SPOT TREATMENT OF UNDESIRABLE HARDWOOD VEGETATION

This product may be used as a directed foliar or cut stem application to control undesirable brush and hardwoods in the management of stands of all ages for the conifer species listed in the broadcast application section above. Refer to mixing and application instructions in the directed foliar or cut stem sections above for proper use rates, equipment, and application techniques. Ensure that the maximum labeled rates per acre listed for crop species are not exceeded. Cut stem applications may be used for spot treatment of undesirable hardwoods in Ponderosa pine stands using 12 fluid ounces or less of product per acre.

Avoid direct application to desired plant species as injury may occur. Injury may occur to non-target or desirable hardwoods or conifers if they extend from the same root system or their root systems are grafted to those of the treated tree or if their roots extend into the treated zone.

LATE ROTATION VEGETATION CONTROL IN WESTERN CONIFER

In California, the Pacific Northwest and Inland Northwest, broadcast aerial applications of this product up to 24 fl. oz./A are permissible in conifer stands that are targeted for harvesting the year following treatment. Use minimum spray volume of 15 gallons per acre. Do not use this treatment if conifer injury or mortality cannot be tolerated.

BAG AND SPRAY APPLICATION FOR CONIFER RELEASE

In Douglas-fir and Ponderosa pine stands, broadcast applications of this product up to 16 fl. oz./A are permissible when the trees are covered by bags prior to the application. The bags must prevent the spray mix from contacting the conifer foliage. On sites with coarse textured soils (e.g. decomposed granite, pumice, sandy or rocky sites) or low levels of soil organic matter (generally 5% or less) significant conifer growth inhibition and mortality is possible. Do not use this treatment on these types of sites if conifer growth inhibition and mortality cannot be tolerated.

NONAGRICULTURAL LAND USE

This product may be used for woody and herbaceous weed control in nonagricultural lands including private, public, and military lands. Applications are not applicable to treatment of commercial timber or other

grown for sale or other commercial use or for commercial seed production or for research purposes.

BRUSH CONTROL

Use the specified rate of this product with the preferred application technique for control of undesirable brush.

Tank Mixes and Application Rates for Low-Volume Foliar Brush Control*

Target Vegetation	**Arsenal Rate** (% by volume)	**Tank Mix**
Mixed hardwoods without elm, locust, or pine	0.5 to 0.75	Surfactant
Mixed hardwoods containing elm, locust, and pine	0.25 to 0.5	AquaNeat® at 2% to 3% or Razor® at 2 2/3 to 4% by volume plus surfactant
Mixed hardwoods with locust and pine but no elm		Krenite® at 2% to 5% by volume plus surfactant
Mixed hardwoods with locust and elm but no pine		Patriot® at 2 oz/A or 2-3 grams/gal plus surfactant
*Tank mixes with 2,4-D or products containing 2,4-D could result in reduced product efficacy.		

Backpack and Handheld Spray Mixing Guide

% Solution	Product Per Gallon of Mix (oz)	Product Per 4 Gallon Backpack (oz)
0.25	0.3	1.3
0.5	0.6	2.6
1.0	1.3	5.1
2.0	2.6	10.2
3.0	3.8	15.4
5.0	6.4	25.6

Measuring Chart

128 fluid ounces	=	1 gallon
16 fluid ounces	=	1 pint
8 pints	=	1 gallon
4 quarts	=	1 gallon
2 pints	=	1 quart

FOR SELECTIVE CONTROL OF UNDESIRABLE WEEDS IN UNIMPROVED BERMUDAGRASS AND BAHIAGRASS

This product may be used on unimproved industrial noncropland Bermudagrass and bahiagrass turf, such as roadsides, utility rights-of-way and other nonagricultural lands. The application of this product on established common and coastal Bermudagrass and bahiagrass provides

control of labeled broadleaf and grass weeds. Competition from these weeds is eliminated, releasing the Bermudagrass and bahiagrass. Treatment of Bermudagrass with this product results in a compacted growth habit and seedhead inhibition.

Uniformly apply with properly calibrated ground equipment using at least 10 gallons of water per acre. Temporary yellowing of grass may occur when treatment is made after growth begins. DO NOT add surfactant in excess of the specified rate (1 fl. oz. per 25 gallons of spray solution). DO NOT apply to grass during its first growing season. DO NOT apply to grass that is under stress from drought, disease, insects, or other causes.

DOSAGE RATES AND TIMING:

Bermudagrass - Apply this product at 3 to 6 fl. oz. per acre when the Bermudagrass is dormant. Apply this product at 3 to 4 fl. oz. per acre after the bermudagrass has reached full green-up. Applications made during green-up will delay green-up. Include a surfactant in the spray solution.

For additional pre-emergence control of annual grasses and small seeded broadleaf weeds, add Pendulum® Aquacap™ herbicide at the rate of 1.55 to 3.15 pints per acre. Consult the Pendulum® label for weeds controlled and for other use directions and precautions.

For control of Johnsongrass in bermudagrass turf, apply this product at 4 fl. ozs. per acre plus Roundup® or Razor® at 6 fl. oz. per acre plus surfactant. For additional control of broadleaves and vines, Tahoe®3A or Garlon®3A may be added to the above mix at the rate of 0.5-1.0 pints per acre. Observe all precautions and restrictions on the Tahoe®3A, Garlon®3A and Roundup® labels.

Bahiagrass - Apply this product at 2 to 4 fl. oz. per acre when the bahiagrass is dormant or after the grass has initiated green-up but has not exceeded 25% green-up. Include in the spray solution a surfactant (See Adjuvant section for specific use directions for surfactants).

WEEDS CONTROLLED IN UNIMPROVED BERMUDAGRASS AND BAHIAGRASS

Bedstraw* (Galium spp.)
Bishopweed* (Ptilimnium capillaceum)
Buttercup* (Ranunculus parviflorus)
Carolina geranium (Geranium carolinianum)
Fescue (Festuca spp.)
Foxtail (Setaria spp.)
Little barley (Hordeum pusillum)
Seedling Johnsongrass (Sorghum halepense)
Wild carrot (Daucus carota)
White clover (Trifolium repens)
Yellow woodsorrel (Oxalis stricta)

*Use not permitted in California unless otherwise directed by supplemental labeling

GRASS GROWTH AND SEEDHEAD SUPPRESSION

This product may be used to suppress growth and seedhead development of certain turfgrass in unimproved areas. When applied to desirable turf, this product may result in temporary turf damage and/or discoloration. Effects to the desirable turf may vary with environmental conditions. For optimum performance, application should be made prior to culm elongation. Applications may be made before or after mowing. If applied prior to mowing, allow at least three days of active growth before mowing. If following a mowing, allow sufficient time for the grasses to recover before applying this product or injury may be amplified.

DO NOT apply to turf under stress (drought, cold, insect damaged, etc.) or severe injury or death may occur.

Bermudagrass - Apply this product at 3 to 4 fl. oz. per acre from early green-up to prior to seed head initiation. DO NOT add a surfactant for this application.

Cool Season Unimproved Turf - Apply this product at 1 fl. oz. per acre plus 0.25% nonionic surfactant. For increased suppression, this product may be tank-mixed with such products as Campaign® (12 fl. oz. per acre) or Embark® (4 fl. oz. per acre).

Tank-mixes may increase injury to desired turf. Consult each product label for recommended turf species and other use directions and precautions. Tank mixes with 2,4-D or products containing 2,4-D may decrease the effectiveness of this product.

TOTAL VEGETATION CONTROL WHERE BAREGROUND IS DESIRED

This product is an effective herbicide for preemergence or post-emergence control of many annual and perennial broadleaf and grass weeds where bareground is desired. This product is particularly effective on hard-to-control perennial grasses. This product at 0.75 to 3 pints per acre can be used alone or in tank-mix with herbicides approved for use in bare ground. The degree and duration of control are dependent on the rate of this product used, tank-mix partner, the volume of carrier, soil texture, rainfall and other conditions.

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

Applications of this product may be made anytime of the year. Use equipment calibrated to deliver desired gallons per acre spray volume and uniformly distribute the spray pattern over the treated area.

Post-emergence Applications: Always use a spray adjuvant (See Adjuvant section of this label) when making a post-emergence application. For optimum performance on tough to control annual grasses, applications should be made at a total volume of 100 gallons per acre or less. For quicker

burndown or brown-out of target weeds, this product may be tank-mixed with products such as Razor®, or Roundup®. Tank mixes with 2,4-D or products containing 2,4-D may reduce the performance of this product. Always follow the more restrictive label when tank-mixing.

Spot Treatments: This product may be used as a follow-up treatment to control escapes or weed encroachment in a bareground situation. To prepare the spray solution, thoroughly mix in each gallon of water 0.5 to 5% of this product plus an adjuvant. For increased burndown, include Razor®, Roundup®, or similar products. For added residual weed control or to increase the weed spectrum, add ProClipse® herbicide, Vanquish® herbicide, or Diablo® herbicide. Always follow the more restrictive label when tank-mixing.

FOR CONTROL OF UNDESIRABLE WEEDS UNDER PAVED SURFACES

This product 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.

This product 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 insure their complete removal. Paving should follow applications of this product as soon as possible. DO NOT apply where the product may contact the roots of desirable trees or other plants.

This product is not to be used under pavement on residential properties such as driveways or parking lots or 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 (drip line).

Applications should be made to the soil surface only when final grade is established. DO NOT move soil following application of this product. Apply this product in sufficient water (at least 100 gal. per acre) to ensure thorough and uniform wetting of the soil surface, including the shoulder areas. Add this product at a rate of 1.5 quarts per acre (1.10 fl. oz. per 1000 square feet) 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 this product is needed for herbicide activation. This product 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.

SPOT TREATMENTS AND CRACK–AND-CREVICE TREATMENTS

Use this product as an initial or follow up treatment to control weed escapes or weed encroachment in bareground situations, including cracks and crevices in paved surfaces such as parking lots, runways and roadways.

FOR SPOT TREATMENT WEED CONTROL IN GRASS PASTURE AND RANGELAND

For the control of undesirable vegetation in grass pasture and rangeland, this product may be applied as a spot treatment at a rate of 1 to 24 fl. oz. of product per acre using any of the ground application methods as described in this label. Spot applications may not exceed more than one

tenth of the area to be grazed or cut for hay in grass pasture and rangeland. See appropriate sections of this label for specific use directions for the application method and vegetation control desired.

DO NOT apply more than 24 fl. oz. per acre per year.

Grazing and Haying Restrictions:

DO NOT cut forage grass for hay for 7 days after application of this product. There are no grazing restrictions following application of this product.

Rangeland Use Instructions:

This product may be applied to rangeland for the control of undesirable vegetation to achieve one or more of the following vegetation management objectives:

- Control of undesirable (noxious, invasive and non-native) plant species.
- Control of undesirable vegetation for wildlife habitat improvement.
- Control of undesirable vegetation to aid in the establishment of desirable rangeland plant species.
- Release of existing desirable rangeland plant communities from the competitive pressure of undesirable plant species.
- Control of undesirable vegetation to aid in the establishment of desirable vegetation following a fire.
- Control of vegetation to reduce wildfire fuel.

To ensure the protection of threatened and endangered plants, when applying this product to rangeland:

- Federal agencies must follow NEPA regulations to ensure protection of threatened and endangered plants.
- Other organizations or individuals must operate under a habitat conservation plan if threatened or endangered plants are known to be present on the land to be treated.

- State agencies must work with the Fish and Wildlife Service or the Service's designated state conservation agency to ensure protection of threatened and endangered plants.

See appropriate sections of this label for specific use directions for the desired rangeland vegetation management control desired.

This product must only be applied to a given rangeland acre as specific weed problems arise. Long-term control of undesirable weeds ultimately depends on the successful use of the land management practices that promote the sustainability and growth of desirable rangeland plant species.

ROTATIONAL CROP GUIDELINE

Rotational crops may be planted 12 months after applying this product at the specified pasture and rangeland rate. Twelve months after an application of this product, and before planting any crop, a successful field bioassay must be completed. The field bioassay consists of a test strip of the intended rotational crop planted in the previously treated area in the grass pasture and rangeland and grown to maturity. The test strip should include low areas and knolls, and include variations in soil type and pH within the treated area. If no crop injury is evident in the test strip, the intended rotational crop may be planted the following year.

Use of this product in accordance with label directions is expected to result in normal growth of rotational crops in most situations; however, various agronomic factors and environmental factors make it impossible to eliminate all risks associated with the use of this product and, therefore, rotational crop injury is always possible.

TERRESTRIAL WEEDS CONTROLLED

In terrestrial sites, this product will provide preemergence or post-emergence control with residual control of the following target vegetation species at the rates listed. Residual control refers to control of newly germinating seedlings in both annuals and perennials. In general, annual weeds may be controlled by preemergence or postemergence applications of this product. For established biennials and perennials postemergence applications of this product are recommended.

The rates shown below pertain to broadcast applications and indicate the relative sensitivity of these weeds. The relative sensitivity should be referenced when preparing low volume spray solutions (see “Low Volume” section of “Ground Applications”); low volume applications may provide control of the target species with less product per acre than is shown for the broadcast treatments. This product must be used only in accordance with the Directions for Use on this label.

The relative sensitivity of the species listed below can also be used to determine the relative risk of causing non-target plant injury if any of the below listed species are considered to be desirable within the area to be treated.

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 may not be effectively controlled. If naturally occurring resistant biotypes are present in an area, this product should be tank-mixed or applied sequentially with an appropriate registered herbicide having a different mode of action to ensure control.

TERRESTRIAL WEEDS CONTROLLED		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
GRASS WEEDS		
Apply 1.0 to 1.5 pints per acre[1]		
Annual bluegrass	*Poa annua*	A
Broadleaf signalgrass	*Brachiaria platyphylla*	A
Canada bluegrass	*Poa compressa*	P
Downy brome	*Bromus tectorum*	A
Fescue	*Festuca* spp.	A/P
Foxtail	*Setaria* spp.	A
Italian ryegrass	*Lotium multiflorum*	A
Johnsongrass	*Sorghum halepense*	P
Kentucky bluegrass	*Poa pratensis*	P
Napier grass	*Pennisetum purpureum*	P
Orchardgrass	*Dactytis glomerata*	P
Paragrass	*Brachiaria mutica*	P
Quackgrass	*Agropyron repens*	P
Sandbur	*Cenchrus* spp.	A
Smooth brome	*Bromus inermis*	P
Vaseygrass	*Paspalum urvillei*	P

(continued)

TERRESTRIAL WEEDS CONTROLLED *(continued)*		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
GRASS WEEDS *(continued)*		
Apply 1.0 to 1.5 pints per acre[1] *(continued)*		
Wild oats	*Avena fatua*	A
Witchgrass	*Panicum capillare*	A
Apply 1.5 to 2.0 pints per acre[1]		
Barnyardgrass	*Echinochloa crus-galli*	A
Beardgrass	*Andropogon* spp.	P
Bluegrass, annual	*Poa annua*	A
Bulrush[5]	*Scirpus validus*	P
Cheat	*Bromus secalinus*	A
Cogongrass	*Imperata cylindrica*	P
Crabgrass	*Digitaria* spp.	A
Crowfootgrass	*Dactyloctenium aegyptium*	A
Fall panicum	*Panicum dichotomiflorum*	A
Goosegrass	*Eleusine indica*	A
Itchgrass	*Rottboellia exaltata*	A
Lovegrass[4]	*Eragrostis* spp.	P

(continued)

TERRESTRIAL WEEDS CONTROLLED *(continued)*		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
GRASS WEEDS *(continued)*		
Apply 1.5 to 2.0 pints per acre[1] *(continued)*		
Maidencane[5]	*Panicum hemitomon*	A
Panicum, browntop	*Panicum fasciculatum*	A
Panicum, Texas	*Panicum texanum*	A
Prairie threeawn	*Aristida oligantha*	P
Sandbur, field	*Cenchrus incertus*	A
Signalgrass	*Brachiaria platyphylla*	A
Wild barley	*Hordeum* spp.	A
Woolly cupgrass	*Eriochloa villosa*	A
Apply 2.0 to 3.0 pints per acre[1]		
Bahiagrass	*Paspalum notatum*	P
Bermudagrass[3,4]	*Cynodon dactylon*	P
Big bluestem	*Andropogon gerardii*	P
Dallisgrass	*Paspalum dilatatum*	P
Feathertop	*Pennisetum villosum*	P
Guineagrass	*Panicum maximum*	P
Saltgrass[3]	*Distichlis stricta*	P

(continued)

TERRESTRIAL WEEDS CONTROLLED *(continued)*		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
GRASS WEEDS *(continued)*		
Apply 2.0 to 3.0 pints per acre[1] *(continued)*		
Sand dropseed	*Sporobolus cryptandrus*	P
Sprangletop	*Leptochloa* spp.	A
Timothy	*Phleum pratense*	P
Wirestem muhly	*Muhlenbergia frondosa*	P
[1] Use higher rate where heavy or well-established infestations occur. [2] Growth Habit: A = Annual, B= Biennial, P = Perennial [3] Use a minimum of 75 GPA. [4] Use higher labeled rates. [5] Use not permitted in California unless otherwise directed by supplemental labeling.		
BROADLEAF WEEDS		
Apply 2.0 to 3.0 pints per acre[1]		
Burdock	*Arctium* spp.	B
Carolina geranium	*Geranium carolinianum*	A
Carpetweed	*Mollugo verticillata*	A
Clover	*Trifolium* spp.	A/P

(continued)

TERRESTRIAL WEEDS CONTROLLED *(continued)*		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
BROADLEAF WEEDS *(continued)*		
Apply 2.0 to 3.0 pints per acre[1] *(continued)*		
Common chickweed	*Stellaria media*	A
Common ragweed	*Ambrosia artemisiifolia*	A
Dandelion	*Taraxacum officinale*	P
Dogfennel	*Eupatorium capillifolium*	A
Filaree	*Erodium* spp.	A
Fleabane	*Erigeron* spp.	A
Hoary vervain	*Verbena stricta*	P
Indian mustard	*Brassica juncea*	A
Kochia	*Kochia scoparia*	A
Lambsquarters	*Chenopodium album*	A
Lespedeza[3]	*Lespedeza* spp.	P
Miners lettuce	*Montia perfoliata*	A
Mullein	*Verbascum* spp.	B
Nettleleaf goosefoot	*Chenopodium murale*	A
Oxeye daisy	*Chrysanthemum leucanthemum*	P

(continued)

TERRESTRIAL WEEDS CONTROLLED *(continued)*		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT**[2]
BROADLEAF WEEDS *(continued)*		
Apply 2.0 to 3.0 pints per acre[1] *(continued)*		
Pepperweed	*Lepidium* spp.	A
Pigweed	*Amaranthus* spp.	A
Puncturevine	*Tribulus terrestris*	A
Russian thistle	*Salsola kali*	A
Smartweed	*Polygonum* spp.	A/P
Sorrell	*Rumex* spp.	P
Sunflower	*Helianthus* spp.	A
Sweet clover	*Melilotus* spp.	A/B
Tansymustard	*Descurainia pinnata*	A
Western ragweed	*Ambrosia psilostachya*	P
Wild carrot	*Daucus carota*	B
Wild lettuce	*Lactuca* spp.	A/B
Wild parsnip	*Pastinaca saliva*	B
Wild turnip	*Brassica campestris*	B
Woollyleaf bursage	*Franseria tomentosa*	P
Yellow woodsorrel	*Oxalis stricta*	P

(continued)

TERRESTRIAL WEEDS CONTROLLED *(continued)*		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
BROADLEAF WEEDS *(continued)*		
Apply 2.0 to 3.0 pints per acre[1] *(continued)*		
[1] Use higher labeled rate where heavy or well-established infestations occur. [2] Growth Habit: A = Annual, B = Biennial, P = Perennial [3] Use not permitted in California unless otherwise directed by supplemental labeling. [4] For best results, early postemergence applications are required		
Apply 1.5 to 2.0 pints per acre[1]		
Broom snakeweed	*Gutierrezia sarothrae*	P
Bull thistle	*Cirsium vulgare*	B
Burclover	*Medicago* spp.	A
Chickweed mouseear	*Cerastium vulgatum*	A
Clover hop	*Trifolium procumbens*	A
Cocklebur	*Xanthium strumarium*	A
Cudweed	*Gnaphalium* spp.	A
Desert camelthorn	*Alhagi pseudalhagi*	P
Dock	*Rumex* spp.	P
Fiddleneck	*Amsinckia intermedia*	A

(continued)

TERRESTRIAL WEEDS CONTROLLED *(continued)*		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
BROADLEAF WEEDS *(continued)*		
Apply 1.5 to 2.0 pints per acre[1] *(continued)*		
Goldenrod	*Solidago* spp.	P
Henbit	*Lamium amplexicaule*	A
Knotweed, prostrate	*Polygonum aviculare*	A/P
Pokeweed	*Phytolacca americana*	P
Purslane	*Portulaca* spp.	A
Pusley, Florida	*Richardia scabra*	A
Rocket London	*Sisymbrium irio*	A
Rush skeletonweed[4]	*Chondrilla juncea*	B
Saltbush	*Atriplex* spp.	A
Shepherdspurse	*Capsella bursa-pastoris*	A
Spurge, annual	*Euphorbia* spp.	A
Stinging nettle	*Urtica dioica*	P
Velvetleaf	*Abutilon theophrasti*	A
Yellow starthistle	*Centaurea solstitialis*	A

(continued)

TERRESTRIAL WEEDS CONTROLLED *(continued)*		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
BROADLEAF WEEDS *(continued)*		
Apply 2.0 to 4.0 pints per acre[1]		
Arrowwood	*Pluchea sericea*	A
Canada thistle	*Cirsium arvense*	P
Giant ragweed	*Ambrosia trifida*	A
Gray rabbitbrush	*Chrysothamnus nauseosus*	P
Little mallow	*Malva parviflora*	B
Milkweed	*Asclepias* spp.	P
Primrose	*Oenothera kunthiana*	P
Silverleaf nightshade	*Solarium elaeagnifolium*	P
Sowthistle	*Sonchus* spp.	A
Texas thistle	*Cirsium texanum*	P

[1] Use higher rate where heavy or well-established infestations occur.
[2] Growth Habit: A = Annual, B = Biennial, P = Perennial
[3] Use not permitted in California unless otherwise directed by supplemental labeling.
[4] For best results, early postemergence applications are required

TERRESTRIAL WEEDS CONTROLLED *(continued)*		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
VINES AND BRAMBLES		
Apply 0.5 pint per acre		
Field bindweed	*Convolvulus arvensis*	P
Hedge bindweed	*Calystegia sepium*	A
Apply 1.0 to 1.5 pints per acre[1]		
Wild buckwheat	*Polygonum convolvulus*	P
Apply 1.5 to 2.0 pints per acre[1]		
Greenbriar	*Smilax* spp.	P
Honeysuckle[3]	*Lonicera* spp.	P
Morningglory	*Ipomoea* spp.	A/P
Poison ivy	*Rhus radicans*	P
Redvine	*Brunnichia cirrhosa*	P
Wild rose[3] Including: Multiflora rose Macartney rose	*Rosa* spp. *Rosa multiflora* *Rosa bracteata*	P P P

(continued)

TERRESTRIAL WEEDS CONTROLLED *(continued)*		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
VINES AND BRAMBLES *(continued)*		
Apply 2.0 to 3.0 pints per acre[1]		
Trumpetcreeper	*Campsis radicans*	P
Virginia creeper	*Parthenocissus quinquefolia*	P
Wild grape	*Vitis* spp.	P
[1] Use higher labeled rate where heavy or well-established infestations occur. [2] Growth Habit: A = Annual, B = Biennial, P = Perennial [3] Use higher labeled rate		
BRUSH SPECIES		
Apply 1.0 to 2.0 pints per acre[1]		
Brazilian peppertree	*Schinus terebinthifolius*	P
Chinese tallow tree Popcorn tree	*Sapium sebiferum*	P
Russian olive	*Elaeagnus angustifolia*	P
Sumac	*Rhus* spp.	P
Willow	*Salix* spp.	P

(continued)

TERRESTRIAL WEEDS CONTROLLED *(continued)*		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
BRUSH SPECIES *(continued)*		
Apply 2.0 to 3.0 pints per acre[1]		
Alder	*Alnus* spp.	P
American beech	*Fagus grandifolia*	P
Ash[3]	*Fraxinus* spp.	P
Aspen	*Populus* spp.	P
Autumn olive	*Elaeagnus umbellata*	P
Bald cypress	*Taxodium distichum*	P
Bigleaf maple	*Acer macrophyllum*	P
Birch[3]	*Betula* spp.	P
Black gum[4]	*Nyssa sylvatica*	P
Black oak	*Quercus kelloggii*	P
Boxelder	*Acer negundo*	P
Ceanothis	*Ceanothis* spp.	P
Cherry[3, 4]	*Prunus* spp.	P
Chinaberry	*Melia azedarach*	P
Chinquapin	*Castanopsis chrysophylla*	P

(continued)

TERRESTRIAL WEEDS CONTROLLED *(continued)*		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
BRUSH SPECIES *(continued)*		
Apply 2.0 to 3.0 pints per acre[1] *(continued)*		
Cottonwood	*Populus trichocarpa* *P deltoides*	P
Cypress	*Taxodium* spp.	P
Dogwood[3]	*Cornus* spp.	P
Elm	*Ulmus* spp.	P
Eucalyptus	*Eucalyptus* spp.	P
Hawthorn	*Crataegus* spp.	P
Hickory[3]	*Carya* spp.	P
Huckleberry	*Gaylussacia* spp.	P
Lyonia spp. Including: Fetterbush Staggerbush	 *Lyonia lucida* *Lyonia mariana*	 P P
Madrone	*Arbutus menziesii*	P
Maple	*Acer* spp.	P
Melaleuca	*Melaleuca quinquenervia*	P
Mulberry[3, 6]	*Morus* spp.	P

(continued)

TERRESTRIAL WEEDS CONTROLLED *(continued)*		
BRUSH SPECIES *(continued)*		
Apply 2.0 to 3.0 pints per acre[1] *(continued)*		
Oak[7]	*Quercus* spp.	P
Persimmon[4]	*Diospyros virginiana*	P
Poison oak	*Rhus diversiloba*	P
Poplar	*Populus* spp.	P
Privet	*Ligustrum vulgare*	P
Red alder	*Alnus rubra*	P
Red maple	*Acer rubrum*	P
Saltcedar	*Tamarix pentandra*	P
Sassafras	*Sassafras albidum*	P
Sourwood[4]	*Oxydendrum arboreum*	P
Sweetgum	*Liquidambar styraciflua*	P
Sycamore	*Platanus occidentals*	P
Tanoak[3]	*Lithocarpus densiflorus*	P
Titi[8]	*Cyrilla racemiflora*	P
Tree of heaven	*Ailanthus altissima*	P
Vaccinium spp. Including: Blueberry Sparkleberry	 *Vaccinium* spp. *Vaccinium arboreum*	 P P

(continued)

TERRESTRIAL WEEDS CONTROLLED *(continued)*		
BRUSH SPECIES *(continued)*		
Apply 2.0 to 3.0 pints per acre[1] *(continued)*		
Water willow[9]	*Justicia americana*	P
Yellow poplar[3]	*Liriodendron tulipifera*	P

[1] Use higher labeled rate where heavy or well-established infestations occur.
[2] Growth Habit: A = Annual, B = Biennial, P = Perennial
[3] Use higher labeled rate
[4] Best control with applications before formation of fall leaf color.
[5] Tank mix with glyphosate.
[6] Degree of control may be species dependent
[7] For water oak (*Quercus nigia*) laurel oak (*Quercus laurifloria*) willow oak(*Quercus phellos*) and live oak (*Quercus virginiana*) use higher labeled rates.
[8] Suppression only.
[9] Use not permitted in California unless otherwise directed by supplemental labeling.

AQUATIC WEEDS CONTROLLED

This product may be applied for control of floating and emergent weeds (see AQUATIC WEEDS CONTROLLED and TERRESTRIAL WEEDS CONTROLLED section) in or near bodies of water which may be flowing, non-flowing, or transient. This product may be applied to specified aquatic sites that include lakes, rivers, streams, ponds, seeps, drainage ditches, canals, reservoirs, swamps, bogs, marshes, estuaries, bays, brackish water,

transitional areas between terrestrial and aquatic sites and seasonal wet areas. See Use Precautions and Restrictions section of this label for precautions, restrictions, and instructions on aquatic uses.

Read and observe the following directions if aquatic sites are present in terrestrial noncrop areas and are part of the intended treatment area:

This product must be applied to the emergent foliage of the target vegetation and has little to no activity on submerged aquatic weeds. Concentrations of this product resulting from direct application to water are not expected to be of sufficient concentration nor duration to control target vegetation. Application should be made in such a way as to maximize spray interception by the target vegetation while minimizing the amount of over spray that enters the water.

This product does not control plants that have a majority of their foliage underwater or plants that are completely submerged. **Product Application:** This product should be applied with surface or helicopter application equipment in a minimum of 5 gallons of water per acre. When applying by helicopter, follow directions under the AERIAL APPLICATIONS section of this label, otherwise refer to section on GROUND APPLICATIONS when using surface equipment.

When applying this product to moving bodies of water applications should be made while traveling upstream to prevent concentration of this herbicide in water. Do not apply to bodies of water or portions of bodies of water where emergent and/or floating weeds do not exist.

Large Application Areas/Oxygen Depletion: When application is to be made to target vegetation that covers a large percentage of the surface area of impounded water, treating the area in strips may avoid oxygen depletion due to decaying vegetation. Oxygen depletion may result in the

suffocation of some sensitive aquatic organisms. Do not treat more than one half of the surface area of the water in a single operation and wait at least 10 to 14 days between treatments. Begin treatment along the shore and proceed outward in bands to allow aquatic organisms to move into untreated areas.

Avoid washoff of sprayed foliage by recreational boat backwash or spray boat for 1 hour after application.

Apply this product at 1 to 3 pints per acre depending on species present and weed density. Do not exceed the maximum label rate of 3 pints per acre (1.5 lb. ai/A) per year. Use the higher labeled rates for heavy weed pressure. Consult the AQUATIC WEEDS CONTROLLED section and the ADDITIONAL WEEDS CONTROLLED section of this label for specific rates.

This product may be applied as a draw down treatment in areas described above. Apply this product to weeds after water has been drained and allow 14 days before reintroduction of water.

This product will control the following target species as specified in the Use Rates and Application Directions section of the table. Rate instructions are expressed in terms of product volume for broadcast applications and as a percent solution for directed applications including spot treatments. For percent solution applications, DO NOT apply more than 1.5 pounds acid equivalent Imazapyr (equivalent to 1.5 quarts) per acre per year.

Mixing Guide

% Solution	Product Per Gallon of Mix (oz)
0.25	0.3
0.5	0.6
1.0	1.3
2.0	2.6
3.0	3.8
5.0	6.4

Measuring Chart

128 fluid ounces	=	1 gallon
16 fluid ounces	=	1 pint
8 pints	=	1 gallon
4 quarts	=	1 gallon
2 pints	=	1 quart

Common Name	Scientific Name	Use Rates and Application Directions
Floating Weeds		
Floating heart	*Nymphodes spp*	1 to 2 pints/A applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
Frogbit	*Limnobium spongia*	0.5 to 1 pint/A applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
Spatterdock	*Nuphar luteum*	Apply a tank mix of 1 to 2 pints/A of this product +4 to 6 pints/A glyphosate in 100 GPA water for best control. Ensure 100% coverage of actively growing emergent foliage.
Water hyacinth	*Eichhornia crassipes*	0.5 to 1 pint/A applied in 100 GPA water to actively growing foliage.
Water lettuce	*Pistia stratiotes*	0.5 to 1 pint/A applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.

(continued)

Common Name	Scientific Name	Use Rates and Application Directions
Emerged Weeds		
Alligatorweed	*Alternanthera philoxeroides*	0.5 to 2 pints/A applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
Arrowhead duck potato	*Sagittaria spp*	0.5 to 1 pint/A applied to 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
Bacopa lemon	*Bacopa spp*	0.5 to 1 pint/A applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
Parrot feather	*Myriophyllum aquaticum*	Foliage must be above water for sufficient product uptake. Apply 1 to 2 pints/A (0.2% to 0.5% solution) of this product to actively growing emergent foliage.

(continued)

Common Name	Scientific Name	Use Rates and Application Directions
Emerged Weeds *(continued)*		
*Pennywort	*Hydrocotyle spp*	0.5 to 1 pint/A applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
Pickerelweed	*Pontedena cordata*	1.0 to 1.5 pints/A applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
Taro wild Coco yam Dasheen Elephant's ear	*Colocasia esculentum*	2 to 3 pints/A applied in 100 GPA with a high quality sticker adjuvant. Ensure good coverage of actively growing emergent foliage.
Water chestnut	*Trappa natans*	2 to 3 pints/A applied in 100 GPA with a high quality sticker adjuvant. Ensure good coverage of actively growing emergent foliage.
*Water lily	*Nymphaea odorata*	1 to 1.5 pints/A applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.

(continued)

Common Name	Scientific Name	Use Rates and Application Directions
Emerged Weeds *(continued)*		
*Water primrose	*Ludwigia uruguayensis*	2 to 3 pints/A (0.5% to 0.75% solution). Ensure 100% coverage of actively growing emergent foliage.
Terrestrial/Marginal Weeds		
*Aquatic nightshade Soda apple	*Solanum tampicense*	1 pint/A (0.25% solution) applied to foliage
Bamboo Japanese	*Phyllostachys spp*	1.5 to 2 pints/A (0.375% to 0.5% solution) applied to foliage
Beach vitex	*Vitex rotundifolia*	2.5% solution + 1% MSO foliar spray. 8.5% solution stem injection (hack and squirt)
Brazilian pepper Christmasberry	*Schinus terebinthifolius*	1 to 2 pints/A (0.25% to 0.5% solution) applied to foliage
Cattail	*Typha spp*	1 to 2 pints/A (0.25% to 0.5% solution) applied to actively growing green foliage after full leaf elongation. Lower rates will control cattail in the North. Higher rates are needed in the South.

(continued)

Common Name	Scientific Name	Use Rates and Application Directions
Terrestrial/Marginal Weeds *(continued)*		
Chinese tallow tree	*Sapium sebiferum*	8 to 12 fl. oz./A applied to foliage
Cogongrass	*Imperata cylindrical*	Burn foliage, till area, then fall spray 1 quart/A (0.5% solution) of this product+MSO applied to new growth.
Cordgrass prairie	*Spartina spp*	2 to 3 pints/A (0.5% to 0.75% solution) applied to actively growing foliage
*Cutgrass	*Zizaniopsis miliacea*	2 to 3 pints/A (0.5% to 0.75% solution) applied to actively growing foliage
*Elephant grass Napier grass	*Pennisetum purpureum*	1.5 pints/A (0.375% solution) applied to actively growing foliage
*Flowering rush	*Butomus umbellatus L*	1 to 1.5 pints/A (0.25% to 0.375% solution) applied to actively growing foliage
Giant reed Wild cane	*Arundo donax*	2 to 3 pints/A (0.5% to 0.75% solution) applied in spring to actively growing foliage

(continued)

Common Name	Scientific Name	Use Rates and Application Directions
Terrestrial/Marginal Weeds *(continued)*		
*Golden bamboo	*Phyllostachys aurea*	1.5 to 2 pints/A (0.375% to 0.5% solution) applied to foliage when plant is actively growing, before setting seedhead. More foliage will result in greater herbicide uptake, resulting in greater root kill.
Junglerice	*Echinochloa colonum*	1.5 to 2 pints/A (0.375% to 0.5% solution) applied to actively growing foliage.
Knapweed	*Centaurea spp*	**Russian knapweed:** 1 to 1.5 pints/A (0.25% to 0.375% solution) + 1 quart/A (0.5% solution) MSO fall applied after senescence begins.
Knotweed, Japanese	*Polygonum cuspidatum* *Fallopia japonica*	1.5 to 2 pints/A (0.375% to 0.5% solution) applied postemergence to actively growing foliage.

(continued)

Common Name	Scientific Name	Use Rates and Application Directions
Terrestrial/Marginal Weeds *(continued)*		
Melaleuca Paperbark tree	*Melaleuca quinquenervia*	• Established stands: apply 3 pints/A (0.75% solution) of this product + 6 pints/A (1.5% solution) glyphosate + spray adjuvant. For best results use 4 quarts/A (2.0% solution) MSO as an adjuvant. • Broadcast foliar control: apply aerially in a minimum of 2 passes at 10 gallons/A applied cross treatment. • Spot treatment: use 12.5% of this product + 25% solution of glyphosate + 1.25% MSO in water applied as a frill or stump treatment.
Nutgrass Kili'p'opu	*Cyperus rotundus*	1 pint/A (0.25% solution) this product + 1 quart/A (0.5% solution) MSO applied early postemergence.

(continued)

Common Name	Scientific Name	Use Rates and Application Directions
Terrestrial/Marginal Weeds *(continued)*		
Nutsedge	*Cyperus spp*	1 to 1.5 pints/A (0.25% to 0.375% solution) postemergence to foliage or preemergence incorporated, nonincorporated preemergence applications will not control.
Phragmites Common reed	*Phragmites australis*	2 to 3 pints/A (0. 5% to 0.75% solution) applied to actively growing green foliage after full leaf elongation. Ensure 100% coverage. If stand has a substantial amount of old stem tissue, mow or burn, allow to regrow to approximately 5 feet tall before retreatment. Lower rates will control phragmites in the North, higher rates are needed in the South.
*Poison hemlock	*Conium maculatum*	1 pint/A (0.25% solution) this product + 1 quart/A (0.5% solution) MSO applied preemergence to early postemergence to rosette before flowering

(continued)

Common Name	Scientific Name	Use Rates and Application Directions
Terrestrial/Marginal Weeds *(continued)*		
Purple loosestrife	*Lynthrum salicana*	0.5 pint/A (0.125% solution) applied to actively growing foliage.
Reed canarygrass	*Phalaris arundinacea*	1.5 to 2 pints/A (0.375% to 0.5% solution) applied to actively growing foliage.
Rose swamp	*Rosa palustris*	1.0 to 1.5 pints/A (0.25% to 0.375% solution) applied to actively growing foliage.
Russian olive	*Elaeagnus angustifolia*	1 to 2 pints/A (0.5% solution) applied to foliage.
Saltcedar Tamarisk	*Tamarix spp*	Aerial application: 1 quart this product+0.25% v/v NIS applied to actively growing foliage during flowering.Spot treatment: Use 0.50% solution of this product + 0.25% v/v NIS and spray to wet foliage. After application, wait at least 2 years before disturbing treated saltcedar. Earlier disturbance can reduce overall control.

(continued)

Common Name	Scientific Name	Use Rates and Application Directions
Terrestrial/Marginal Weeds *(continued)*		
Smartweed	*Polygonum spp*	1 pint/A (0.25% solution) applied early postemergence
Sumac	*Rhus spp*	1 to 1.5 pints/A (0.25% to 0.375% solution) applied to foliage
Swamp morningglory Kangkong Water spinach	*Ipomoea aquatic*	0.5 to 1 pint/A (0.125% to 0.25% solution) of this product + 1 quart/A (0.5% solution) MSO applied early postemergence
Torpedo grass	*Panicum repens*	2 pints/A (0.5% to 0.375% solution). Ensure good coverage to actively growing foliage.
*White top Hoary cress	*Cardaria draba*	0.5 to 1.0 pints/A (0.125% to 0.25% solution) applied in spring to foliage during flowering.
Willow	*Salix spp*	1 to 1.5 pints/A (0.25% to 0.375% solution) of this product applied to actively growing foliage. Ensure good coverage.

*Use not permitted in California unless otherwise directed by supplemental labeling.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Do not store below 10°F.

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: Nonrefillable 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 a mix tank and 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 a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

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TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN THEIR NATURE OF PENALTIES RELATING TO THE GOODS SOLD, INCLUDING USE, APPLICATION, HANDLING, AND DISPOSAL. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, MANUFACTURER OR SELLER SHALL NOT BE LIABLE TO BUYER OR USER BY WAY OF INDEMNIFICATION TO BUYER OR TO CUSTOMERS OF BUYER, IF ANY, OR FOR ANY DAMAGES OR SUMS OF MONEY, CLAIMS OR DEMANDS WHATSOEVER, RESULTING FROM OR BY REASON OF, OR RISING OUT OF THE MISUSE, OR FAILURE TO FOLLOW LABEL WARNINGS OR INSTRUCTIONS FOR USE, OF THE GOODS SOLD BY MANUFACTURER OR SELLER TO BUYER. ALL SUCH RISKS SHALL BE ASSUMED BY THE BUYER, USER, OR ITS CUSTOMERS.TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S OR USER'S EXCLUSIVE REMEDY, AND MANUFACTURER'S OR SELLER'S TOTAL LIABILITY SHALL BE FOR DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT.

If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.

RV070517 [2]

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Polaris® AC Complete**
EPA Reg. No.: 228-570
Product Type: Herbicide

Company Name: Nufarm Americas Inc.
11901 S. Austin Avenue
Alsip, IL 60803
1-800-345-3330

Telephone Numbers: **For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,**
Call CHEMTREC Day or Night: 1-800-424-9300
For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not exactly the same as on the FIFRA label. Certain sections are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

2. HAZARDS IDENTIFICATION

PHYSICAL HAZARDS:
Not hazardous

HEALTH HAZARDS:
Not hazardous

ENVIRONMENTAL HAZARDS:

Hazardous to aquatic environment, acute	Category 3
Hazardous to aquatic environment, chronic	Category 3

SIGNAL WORD:
None Required

HAZARD STATEMENTS:
Harmful to aquatic life with long-lasting effects.

PRECAUTIONARY STATEMENTS
Avoid unintended release to the environment. Dispose of contents in accordance with local, state, and federal regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Isopropylamine Salt of Imazapyr	81510-83-0	51.5 – 54.7
Other Ingredients	Trade Secret	Trade Secret

Synonyms: 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

If Inhaled: Move person to fresh air. Seek medical attention if symptoms develop
If in Eyes: Hold eye open and rinse slowly and gently with water for several minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Seek medical attention if irritation persists
If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water. Seek medical attention if irritation persists

If Swallowed: Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person. Seek medical attention if symptoms develop
Most Important symptoms/effects, acute and delayed: None expected.
Indication of Immediate medical attention and special treatment if needed: Immediate medical attention is not generally required. For ingestion there is no specific antidote available. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use media that is suitable for the surrounding fire.
Special Fire Fighting Procedures: Firefighters should wear NIOSH approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.
Unusual Fire and Explosion Hazards: This product is not flammable or combustible. If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.
Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as oxides of carbon, hydrogen and nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.
Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.
Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.
Methods for Cleanup and Disposal: Pump any free liquid into an appropriate closed container. Absorb residues with an inert material and place in a suitable container for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.
Other Information: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

HANDLING:
Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Spray solutions of this product should be mixed, stored, and applied only in stainless steel, fiberglass, plastic, and plastic-lined steel containers. DO NOT mix, store, or apply this product or spray solutions of this product in unlined steel (except stainless steel) containers or spray tanks.

STORAGE:
Do not store below 10° F. Do not contaminate water, food, or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:
Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Personal Protective Equipment:
Eye/Face Protection: To avoid contact with eyes, wear chemical goggles or shielded safety glasses. **Skin Protection:** To avoid contact with skin wear long-sleeved shirt and long pants, shoes plus socks, chemical-resistant gloves made of any waterproof material. Washing facilities should be readily accessible to the work area.
Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.
General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store,

use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

	OSHA		ACGIH		
Component	**TWA**	**STEL**	**TWA**	**STEL**	**Unit**
Imazapyr	NE	NE	NE	NE	
Other Ingredients	NE	NE	NE	NE	

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light green liquid
Odor:	Faint ammonia like
Odor threshold:	No data available
pH:	5.82 (1% w/w dilution in DIW)
Melting point:	No data available
Initial boiling point and boiling range	No data available
Flash point:	Not applicable due to aqueous salt based composition
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Relative density:	1.112 g/mL @ 20º C
Solubility(ies):	No data available
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	32.371 cSt @20º C; 11.771 @ 40º C

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.
Chemical Stability: This material is stable under normal handling and storage conditions.
Possibility of Hazardous Reactions: Will not occur
Conditions to Avoid: Excessive heat. Do not store near heat or flame. Do not mix or store this product or solutions of this product in unlined steel containers
Incompatible Materials: Strong oxidizing agents: bases and acids.
Hazardous Decomposition Products: Under fire conditions may produce gases such as oxides of carbon, hydrogen and nitrogen.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Eye contact, Skin contact
Eye Contact: Minimally irritating. May cause irritation, redness and tearing.
Skin Contact: Slightly toxic and no more than mildly irritating based on toxicity studies.
Ingestion: Slightly toxic based on toxicity studies.
Inhalation: Harmful if inhaled.
Delayed, immediate and chronic effects of exposure: None expected.
Toxicological Data:
Data from laboratory studies conducted on Imazapyr Technical:
Oral: Rat LD_{50}: >5,000 mg/kg
Dermal: Rabbit LD_{50}: >5,000 mg/kg
Inhalation: Rat 4-hr LC_{50}: >2.06 mg/l (no mortalities highest dose attainable)
Eye Irritation: Rabbit: Minimally irritating (MMTS= 4.7)
Skin Irritation: Rabbit: Slightly irritating (PDII=0.5)

Skin Sensitization: Not a contact sensitizer in guinea pigs following repeated skin exposure.

Subchronic (Target Organ) Effects: For imazapyr, no adverse effects at approximately 1,700 mg/kg/day (highest dose tested).
Carcinogenicity / Chronic Health Effects: Imazapyr did not cause cancer in laboratory animals. EPA has classified imazapyr as a Group E (evidence of non-carcinogenicity for humans) carcinogen.
Reproductive Toxicity: The results of animal studies with imazapyr gave no indication of a fertility impairing effect.
Developmental Toxicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies with imazapyr.
Genotoxicity: For imazapyr, no mutagenic effect was found in various tests with microorganisms and mammals.

Assessment Carcinogenicity: None listed with ACGIH, IARC, NTP or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicity:
Data on Imazapyr:

96-hour LC_{50} Bluegill:	>100 mg/l	Bobwhite Quail 8-day Dietary LC_{50}:	>5,000 ppm
96-hour LC_{50} Rainbow Trout:	>100 mg/l	Bobwhite Quail Oral LD_{50}:	>2,150 mg/kg
48-hour EC_{50} Daphnia:	>100 mg/l	Mallard Duck 8-day Dietary LC_{50}:	>5,000 ppm
14-day EC_{50} Duckweed:	0.024 mg/l	Mallard Duck Oral LD_{50}:	>2,150 mg/kg
7-day EC_{50} Green Algae:	71 mg/l	Honey Bee LD_{50}:	>100 mg/bee

Environmental Fate:
Imazapyr is degraded by microbial metabolism and can be relatively persistent in soils. It has an average half-life in soils that ranges from 2 weeks to 5 months. Half-lives tend to be shorter in forest litter and soils. Imazapyr is water-soluble and variably binds to organic materials in the soils. Although the potential to leach is high, leaching is limited under typical field conditions. In water, imazapyr can be rapidly degraded by photolysis with a half-life averaging 2 days. Due to its rapid photodegradation by sunlight, water contamination by imazapyr is generally not of concern.

13. DISPOSAL CONSIDERATIONS

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

Container Handling and Disposal:

Nonrefillable Containers 5 Gallons or Less: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and 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 a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

Nonrefillable containers larger than 5 gallons: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of

the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers larger than 5 gallons: 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 a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this SDS.

DOT
Not Regulated

IMDG
Not Regulated

IATA
Not Regulated

15. REGULATORY INFORMATION

EPA FIFRA INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION. Harmful if inhaled. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist.

U.S. FEDERAL REGULATIONS

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:
Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):
Not hazardous
Section 313 Toxic Chemical(s):
None

Reportable Quantity (RQ) under U.S. CERCLA:
None

RCRA Waste Code:
Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

State Information:
Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not Listed.

16. OTHER INFORMATION

National Fire Protection Association (NFPA) Hazard Rating:
Rating for this product: Health: 1 **Flammability:** 0 **Reactivity:** 0
Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and

others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

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