

Revarian™

APPLICATORS
CONCENTRATE

Contains imazapyr, the active ingredient used in Arsenal® Applicators Concentrate



For the control of undesirable vegetation growing within specified 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:	(% by weight)
isopropylamine salt of imazapyr: (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid)	53.1%
OTHER INGREDIENTS:	46.9%
TOTAL	100.0%

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

EPA Reg. No.: 91234-368

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 the label, find someone to explain it to you in detail.)

See inside label booklet for Precautionary Statements, and Directions for Use.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
You may also contact SafetyCall at **1-844-685-9173** for emergency medical treatment information.

For Chemical Emergency: Spill, Leak, Fire, Exposure, or Accident, Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)

Revarian™ Applicators Concentrate is not manufactured, or distributed by BASF Professional and Specialty Solutions, seller of Arsenal® Applicators Concentrate.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

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 made of any waterproof material including barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride ≥ 14 mils, or viton ≥ 14 mils.

User Safety Requirements:

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions are given for washables, 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 meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

User Safety Recommendations

Users should:

- Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This product is toxic to plants. Drift and runoff 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 due to decomposition of dead plants. **DO NOT** treat more than 1/2 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. **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 on the label.

Physical and Chemical Hazards

Spray solutions of **Revarian Applicators Concentrate** must 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. **DO NOT** mix or allow coming in contact with oxidizing agents. Hazardous chemical reaction may occur.

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

NONAGRICULTURAL 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

Revarian Applicators Concentrate is an aqueous solution to be mixed with water and a surfactant and applied as a spray solution to control undesirable vegetation growing within specified 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 lands as follows: uncultivated nonagricultural areas (including airports, highway, railroad and utility rights-of-way, sewage disposal areas); uncultivated agricultural areas - noncrop producing (including farmyards, fuel storage areas, fence rows, nonirrigation ditchbanks, barrier strips); industrial sites - outdoor (including lumberyards, pipeline and tank farms); and natural areas (including wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads, and trails). **Revarian Applicators Concentrate** 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

Revarian Applicators Concentrate will control most annual and perennial grass and broadleaf weeds in addition to many brush and vine species with some residual control of undesirable species that germinate above the waterline. **Revarian Applicators Concentrate** 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 2 or more weeks after application. Complete kill of plants may not occur for several weeks. **Revarian Applicators Concentrate** applications are rainfast 1 hour after treatment.

RESTRICTIONS

Maximum Rate – Annual

- **DO NOT** apply more than 48 fl. oz. of this product (1.5 lbs. (ae) imazapyr) per acre per year.

Maximum Rate – Single Application

- **DO NOT** apply more than 48 fl. oz. of this product (1.5 lbs. (ae) imazapyr) per acre per single application.

Maximum Number of Applications Per Year

- **DO NOT** apply more than 1 application per year.
- **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, including a lake, pond or reservoir.
- **DO NOT** apply to water used for irrigation except as described in **Use Precautions and Restrictions - Irrigation water** 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.
- **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.
- 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.
- Clean application equipment after using this product by thoroughly flushing with water.

Nonagricultural Lands and Forestry Sites

- **DO NOT** apply more than 48 fl. oz. of this product (1.5 lbs. (ae) imazapyr) per acre per year.
- **DO NOT** apply more than 48 fl. oz. of this product (1.5 lbs. (ae) imazapyr) per single application.
- **DO NOT** apply more than 1 application per year.

Pasture/Rangeland Sites

- **DO NOT** apply more than 0.55 fl oz (0.17 lb (ae) imazapyr) per 1000 sq. ft. per year.
- **DO NOT** apply more than 0.55 fl oz (0.17 lb (ae) imazapyr) per 1000 sq. ft. per single application.
- **DO NOT** apply more than 1 application per year.
- **DO NOT** treat more than 1/10 of the available area to be grazed or cut for hay.
- For spot treat only. **DO NOT** make broadcast applications.

Aquatic Sites

- **DO NOT** apply more than 48 fl. oz. of this product (1.5 lbs. (ae) imazapyr) per acre per year.
- **DO NOT** apply more than 48 fl. oz. of this product (1.5 lbs. (ae) imazapyr) per single application.
- **DO NOT** apply more than 1 application per year.
- **DO NOT** apply to Aquatic Sites in New York State.

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

Use Precautions and Restrictions - 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 **Revarian Applicators Concentrate** within one (1) mile of an active irrigation water intake during the irrigation season. Applications less than one (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 **Revarian Applicators Concentrate** residue levels 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 **Revarian Applicators Concentrate** directly to water within 1/2 mile upstream of an active potable water intake in flowing water (i.e. river, stream, etc.) or within 1/2 mile 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 1/2 mile 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 amunicipal 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, including 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, including 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 **Revarian Applicators Concentrate** from treated soil. Injury or loss of desirable plants may result if **Revarian Applicators Concentrate** 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 application along shorelines where desirable plants may be present, caution must 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 which extend into the water in an area where **Revarian Applicators Concentrate** has been applied generally will not be adversely affected by uptake of the herbicide from the water.

MANDATORY SPRAY DRIFT

Aerial Applications:

- **DO NOT** release spray at a height greater than 10 ft. above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to use a coarse or coarser spray droplet size (ASABE S572.1) for all applications.
- The boom length must not exceed 65% of the wingspan for airplanes or 75% of the rotor blade diameter for helicopters.
- Applicators must use ½ swath displacement upwind at the downwind edge of the field.
- Nozzles must be oriented so the spray is directed toward the back of the aircraft.
- **DO NOT** apply when wind speeds exceed 10 mph at the application site.
- **DO NOT** apply during temperature inversions.

Ground Applications:

- Apply with the nozzle height specified by the manufacturer, but no more than 3 ft. above the ground or crop canopy.
- Applicators are required to use a coarse or coarser spray droplet size (ASABE S572.1) for all applications.
- **DO NOT** apply when wind speeds exceed 10 mph at the application site.
- **DO NOT** apply during temperature inversions.

Boom-less Ground Applications:

- Applicators are required to use a coarse or coarser droplet size (ASABE S572.1) for all applications.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

SPRAY DRIFT ADVISORIES

Boom-less Ground Applications:

- Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

Handheld Technology Applications:

- Take precautions to minimize spray drift.

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.



Controlling Droplet Size – Ground Boom

- Volume – Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure – Use the lowest spray pressure specified for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle – Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Controlling Droplet Size – Aircraft

- Adjust Nozzles – Follow nozzle manufacturers directions for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

Boom Height – Ground Boom

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom must remain level with the crop and have minimal bounce.

Release Height – Aircraft

Higher release heights increase the potential for spray drift. When applying aerially to crops, **DO NOT** release spray at a height greater than 10 ft. above the crop canopy, unless a greater application height is necessary for pilot safety.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. **AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.** Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

WIND EROSION

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

RESISTANCE MANAGEMENT

For resistance management, this product is a Group 2 herbicide. Any weed population may contain or develop plants naturally resistant to this product and other Group 2 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same area. Appropriate resistance management strategies must be followed.

To delay herbicide resistance take one or more of the following steps:

- Rotate the use of this product or other Group 2 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use [and crop rotation] and that considers mechanical control methods, cultural (e.g., timing to favor the turf [or crop] [higher crop seeding rates; precision fertilizer application method] and not the weeds), biological (weed competitive [crops] [or] varieties) and other management practices.
- Scout before and after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method [including hoeing or tillage]. Prevent movement of resistant weed seeds to other areas by cleaning equipment [when moving between fields, and planting clean seed].
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report non-performance or suspected resistance, contact Atticus, LLC 984-465-4800.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Contact your local sales representative, crop advisor, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. **DO NOT** assume that each listed weed is being controlled by this mechanism of action. Co-formulated active ingredients are intended to broaden the spectrum of weeds that are controlled. Some weeds may be controlled by only one of the active ingredients in this product.

Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds.
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.

INTEGRATED PEST MANAGEMENT

Atticus, LLC advises the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an Integrated Pest Management (IPM) program which can include biological, cultural, and genetic practices including field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

Adjuvants

Postemergence applications of **Revarian Applicators Concentrate** 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 (NIS) at the rate of 0.25% volume/volume (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 an 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 would not be considered surfactants that meet the above requirements.

Methylated Seed Oil or Vegetable Oil Concentrate

Instead of a surfactant, a methylated seed oil (MSO) or vegetable-based seed oil concentrate may be used at the rate of 24-32 fl oz per acre. When using spray volumes greater than 30 gallons per acre, methylated seed oil or vegetable-based seed oil concentrates are to 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 **Revarian Applicators Concentrate** deposition and uptake by plants under moisture or temperature stress.

Silicone-based Surfactant

See manufacturer's label for specific rates. 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

Revarian Applicators Concentrate 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 runoff, 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 48 fl oz. of this product per acre (1.5 lbs ae) in an invert emulsion.

Fertilizer/Surfactant Blends: Nitrogen based liquid fertilizers including 28%N, 32%N, 10-34-0 or ammonium sulfate, may be added at the rate of 32-48 fl. oz. per acre in combination with the specified 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 advised.

Other

An anti-foaming 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

Revarian Applicators Concentrate may be selectively applied 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, **Revarian Applicators Concentrate** may also be applied using cut-stump, cut-stem, and frill or 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 fixed-wing aircraft and helicopters can be used to apply **Revarian Applicators Concentrate**, but applications to aquatic sites are restricted to helicopter only. **DO NOT** make applications by fixed-wing aircraft or helicopter 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 **Revarian Applicators Concentrate** unless death of treated tree can be tolerated.

Uniformly apply the specified amount of **Revarian Applicators Concentrate** 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 a paint (organic coating) may prevent corrosion.

Ground Application

Foliar Application

Low-volume Foliar Application

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 2.50% **Revarian Applicators Concentrate** plus surfactant (see the Adjuvants section of this label for specific use directions). A foam-reducing agent may be applied at the specified 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.

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 percent 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, including 5500 X3 or 5500 X4, may be used. Attaching a rollover valve onto a Spraying Systems Model 30 gunjet or other similar spray gun allows for the use of both 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 Application with Backpack.

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 2 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 2 sides of the target in smooth zigzag motions from crown to bottom.

Low-volume Foliar Application with Hydraulic Handgun Application Equipment.

Use the same technique as described above for **Low-volume Foliar Application with Backpack**.

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 that contacts the understory may result in severe injury or death of plants in the understory.

High-volume Foliar Application

For optimum performance when spraying medium-density 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 runoff, causing increased ground cover injury and injury to desirable species. To prepare the spray solution, thoroughly mix **Revarian Applicators Concentrate** in water and add a surfactant (see **Adjuvants** section for specific use directions and rates for surfactants). A foam-reducing agent may be added at the specified 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. Uniformly cover the foliage of the vegetation to be controlled, but **DO NOT** apply to runoff. Excessive wetting of foliage is not necessary.

Side Trimming

DO NOT side trim with **Revarian Applicators Concentrate** unless severe injury or death of the treated tree can be tolerated. **Revarian Applicators Concentrate** is readily translocated and can result in death of the entire tree.

Cut-surface Treatment

Revarian Applicators Concentrate may be used to control undesirable woody vegetation by applying the **Revarian Applicators Concentrate** 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** overapply solution causing runoff 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 fl. oz. of this product (0.12 to 0.2 lbs. (ae) imazapyr) 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 32 fl. oz. of this product (1 lb. (ae) imazapyr) with no more than 32 fl. oz. of water.

Cut-stump Treatment

Dilute Solution. Spray or brush the solution onto the cambium area of the freshly cut stump surface. Ensure 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 Solution. Using standard injection equipment, apply 1 milliliter of solution at each injection site around the tree with no more than 1-inch intervals between cut edges. Ensure that the injector completely penetrates the bark at each injection site.

Concentrate Solution. Using standard injection equipment, apply 1 milliliter of solution at each injection site. Make at least 1 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 1 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 8-16 fl. oz. (0.25 to 0.5 lbs. (ae) imazapyr) per acre to the cut area. This product may be tank-mixed with picloram, 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 chainsaw, make cuts through the bark and completely around the tree to expose the cambium. The cut must angle downward extending into the cambium enough to expose at least 2 growth rings. Using a spray applicator or brush, apply a 12.5% to 50.0% solution of **Revarian Applicators Concentrate** 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 non-cropland 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; 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 including 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 (0.4-0.75 lbs. (ae) imazapyr) 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 fl. oz. per gallon (0.12-0.20 lbs. (ae) imazapyr), may be applied for low volume basal bark treatments. This product at 1.5 to 2.5% (0.06-1.0 lbs. (ae) imazapyr) is advised to be tank mixed with triclopyr 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 (including emulsifiers, etc.) and ongoing agitation are required to attain a homogenous tank mix.
- Basal application must be made to the lower 12" to 18" of the target brush and go to the soil. Care must 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	Revarian Applicators Concentrate ALONE		Revarian Applicators Concentrate WHEN TANK MIXING	
	4.0 oz	6.0 oz	1.5%	2.5%
1 Gallons	4.0 oz	6.0 oz	1.9 oz	3.2 oz
3 Gallons	12.0 oz	18.0 oz	5.75 oz	9.6 oz
4 Gallons	1.0 pt	1.5 pts	7.7 oz	12.8 oz
5 Gallons	1.25 pts	1.0 pt + 14.0 oz	9.6 oz	1.0 pt
50 Gallons	1.5 gals + 8.0 oz	2.0 gals + 2.75 pts	3.0 qts	1.25 gals
100 Gallons	3.0 gals + 1.0 pt	4.0 gals + 2.75 qts	1.5 gals	2.5 gals
16 ounces = 1 pint : 2 pints = 1 quart : 4 quarts = 1 gallon				

Forestry Use

Restrictions

Maximum Rate – Annual

- **DO NOT** apply more than 48 fl. oz. of this product (1.5 lbs. (ae) imazapyr) per acre per year.

Maximum Rate – Single Application

- **DO NOT** apply more than 48 fl. oz. of this product (1.5 lbs. (ae) imazapyr) per acre per single application.

Maximum Number of Applications Per Year

- **DO NOT** apply more than 1 application per year.

Site Preparation Treatment

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

Common Name	Scientific Name	Rate (fl ozs/A)
Loblolly pine	<i>Pinus taeda</i>	24 to 40 (0.75 – 1.25 lb ae)
Loblolly X pitch hybrid		
Longleaf pine	<i>Pinus palustris</i>	
Shortleaf pine	<i>Pinus echinata</i>	
Virginia pine	<i>Pinus virginiana</i>	
Slash pine	<i>Pinus elliotii</i>	20 to 32 (0.63 – 1.0 lb ae)
Coastal redwood	<i>Sequoia sempervirens</i>	12 to 24 (0.38 – 0.75 lb ae)
Incense cedar	<i>Libocedrus decurrens</i>	
Douglas fir	<i>Pseudotsuga menziesii</i>	
Western hemlock	<i>Tsuga heterophylla</i>	
California red fir	<i>Abies magnifica</i>	
California white fir	<i>Abies concolor</i>	12 to 20 (0.38 – 0.63 lb ae)
Jack pine	<i>Pinus banksiana</i>	12 to 16 (0.38 – 0.5 lb ae)
Lodgepole pine	<i>Pinus contorta</i>	
Pitch pine	<i>Pinus rigida</i>	
Ponderosa pine	<i>Pinus ponderosa</i>	
Sugar pine	<i>Pinus lambertiana</i>	
White pine	<i>Pinus strobus</i>	
Black spruce	<i>Picea mariana</i>	
Red spruce	<i>Picea rubens</i>	
White spruce	<i>Picea glauca</i>	

Use the label rate of **Revarian Applicators Concentrate** 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, grass 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 label rate of **Revarian Applicators Concentrate** 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 (NIS). Use the higher label rates of **Revarian Applicators Concentrate** 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 **Revarian Applicators Concentrate**. Observe all precautions and restrictions on the product labels. Always follow the most restrictive label. 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 or other products registered for this use at specified label rates per acre. For control of seedling pines, apply this product with glyphosate 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 **Revarian Applicators Concentrate** or into the treated zone of spot or banded applications for three months following application or injury may occur.

Herbaceous Weed Control

Use **Revarian Applicators Concentrate** for selective weeding in the following conifers:

Common Name	Scientific Name	Rate (fl ozs/A)
Loblolly X pitch hybrid		6-10 (0.19 – 0.31 lb ae)
Virginia pine	<i>Pinus virginiana</i>	
Loblolly pine	<i>Pinus taeda</i>	4 to 6 (0.13 – 0.19 lb ae)
Longleaf pine ¹	<i>Pinus palustris</i>	
Slash pine ¹	<i>Pinus elliotii</i>	
Douglas fir ¹	<i>Pseudotsuga menziesii</i>	

¹Use of surfactant is not advised.

Revarian Applicators Concentrate 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 **Revarian Applicators Concentrate** when conifers are under stress from drought, disease, 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, longleaf 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.

Revarian Applicators Concentrate may also be applied using backpack or handheld sprayers to control herbaceous weeds around individual conifer seedlings. Mix 0.4 to 0.6 fl oz (0.013 – 0.019 lb ae) **Revarian Applicators Concentrate** and 0.2 oz 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 for 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 fl. oz. of this product (0.12 to 0.2 lbs. (ae) imazapyr) 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 Treatment

Revarian Applicators Concentrate 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 the following crop species are not exceeded.

Broadcast Applications for release of the following conifers from hardwood competition:

Common Name	Scientific Name	Rate (fl ozs/A)
Loblolly pine ³	<i>Pinus taeda</i>	12 to 20 (0.38 – 0.63 lb ae)
Loblolly X pitch hybrid ³		
Virginia pine ³	<i>Pinus virginiana</i>	
Atlantic white cedar ⁴	<i>Chamaecyparis thyoides</i>	12 to 16 (0.38 – 0.5 lb ae)
Longleaf pine	<i>Pinus palustris</i>	
Pitch pine	<i>Pinus rigida</i>	
Shortleaf pine	<i>Pinus echinata</i>	
Slash pine	<i>Pinus elliotii</i>	
White pine ¹	<i>Pinus strobus</i>	8 to 16 (0.25 – 0.5 lb ae)
California red fir	<i>Abies magnifica</i>	8 to 12 (0.25 – 0.38 lb ae)
California white fir	<i>Abies concolor</i>	
Lodgepole pine ²	<i>Pinus contorta</i>	
Douglas fir ²	<i>Pseudotsuga menziesii</i>	

Common Name	Scientific Name	Rate (fl ozs/A)
Jack pine ²	<i>Pinus banksiana</i>	6 to 12 (0.19 – 0.38 lb ae)
Black spruce ²	<i>Picea mariana</i>	
Red spruce ²	<i>Picea rubens</i>	
White spruce ²	<i>Picea glauca</i>	

¹**DO NOT** make applications to white pine stands younger than three years old. To minimize potential white pine injury, release treatments must not be made prior to July 15.

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

³Mid-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 fl ozs product per acre. For mid-rotation release of other species, use rates listed in chart above.

Apply the label rate of **Revarian Applicators Concentrate** 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 **Revarian Applicators Concentrate** 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 **Revarian Applicators Concentrate** when conifers are under stress from drought, disease, animal or winter injury, or other stresses reducing conifer vigor.

Revarian Applicators Concentrate 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 ozs/A (0.38 – 0.63 lb ae) of **Revarian Applicators Concentrate** after July 15. Rates below 16 fl ozs/A (0.5 lb ae) are intended for hardwood growth suppression; 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 (0.40 to 0.44 lbs. (ae) imazapyr) may be applied. Use the 12 fl. oz./A (0.40 lb. (ae) imazapyr) rate on sandier sites.

Spot Treatment of Undesirable Hardwood Vegetation

Revarian Applicators Concentrate 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. **DO NOT** exceed maximum labeled rates per acre listed for crop species. Cut-stem applications may be used for spot treatment of undesirable hardwoods in ponderosa pine stands using 12 fl ozs (0.38 lb ae) or less of product per acre.

Avoid direct application to desired plant species or injury may occur. Injury may occur to nontarget 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 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 **Revarian Applicators Concentrate** up to 24 fl ozs/A (0.75 lb ae) 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 **Revarian Applicators Concentrate** up to 16 fl ozs/A (0.5 lb ae) 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

Nonagricultural land is defined as: Nonagricultural lands include private, public and military lands as follows: uncultivated nonagricultural areas (including airports, highway, railroad and utility rights-of-way, sewage disposal areas); uncultivated agricultural areas - noncrop producing (including farmyards, fuel storage areas, fence rows, nonirrigation ditchbanks, barrier strips); industrial sites - outdoor (including lumberyards, pipeline and tank farms); and natural areas (including wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads, and trails). **Revarian Applicators Concentrate** may also be used for the release of unimproved bermudagrass and bahiagrass, for bareground weed control, and for use under certain paved surfaces. Applications are not applicable to treatment of commercial timber or other plants grown for sale or other commercial use or for commercial seed production or for research purposes.

Restrictions

- 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.
- DO NOT** move soil following application of this product.

Maximum Rate – Annual

- DO NOT** apply more than 48 fl. oz. of this product (1.5 lbs. (ae) imazapyr) per acre per year.

Maximum Rate – Single Application

- DO NOT** apply more than 48 fl. oz. of this product (1.5 lbs. (ae) imazapyr) per acre per single application.

Maximum Number of Applications Per Year

- DO NOT** apply more than 1 application per year.

For Spot Treatments

- DO NOT** apply more than 1.10 fl oz (0.034 lb ae) per 1000 sq ft per year.
- DO NOT** apply more than 1.10 fl oz (0.034 lb ae) per 1000 sq ft per single application.

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 **Revarian Applicators Concentrate** with the preferred application technique for the control of undesirable brush.

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

Target Vegetation	Revarian Applicators Concentrate Rate (by volume)	Tank Mix
Mixed hardwoods without elm, locust, or pine	0.50 to 0.75%	Surfactant
Mixed hardwoods containing elm, locust, and pine	0.25 to 0.50%	Glyphosate at 2% to 3% or 2 2/3% to 4% by volume plus surfactant
Mixed hardwoods with locust and pine but no elm	0.25 to 0.50%	Fosamine at 2% to 5% by volume plus surfactant
Mixed hardwoods with locust and elm but no pine.	0.25 to 0.50%	Metsulfuron at labeled rate plus surfactant
*Tank mixes with 2,4-D or products containing 2,4-D have resulted in reduced Revarian Applicators Concentrate efficacy.		

Backpack and Handheld Spray Mixing Guide

% Solution	Product per gallon of mix (fl ozs)	Product per 4-gallon backpack (fl ozs)
0.25%	0.3 (0.01 lb ae/A)	1.3 (0.04 lb ae/A)
0.5%	0.6 (0.02 lb ae/A)	2.6 (0.08 lb ae/A)
1.0%	1.3 (0.04 lb ae/A)	5.1 (0.19 lb ae/A)
2.0%	2.6 (0.08 lb ae/A)	10.2 (0.32 lb ae/A)
3.0%	3.8 (0.12 lb ae/A)	15.4 (0.48 lb ae/A)
5.0%	6.4 (0.2 lb ae/A)	25.6 (0.8 lb ae/A)

Measuring Chart

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



Selective Control of Undesirable Weeds in Unimproved Bermudagrass and Bahiagrass

This product may be used on unimproved industrial non cropland Bermudagrass and bahiagrass turf, including 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 Rate and Timing

Bermudagrass. Apply **Revarian Applicators Concentrate** at 3 to 6 fl ozs (0.09 – 0.19 lb ae) per acre when the Bermudagrass is dormant. Apply **Revarian Applicators Concentrate** at 3 to 4 fl ozs (0.09 – 0.13 lb ae) per acre after the Bermudagrass has reached full greenup. Applications made during greenup will delay greenup. Include a surfactant in the spray solution.

For additional preemergence control of annual grass and small-seeded broadleaf weeds, add pendimethalin to the tank mixture. Consult the pendimethalin label for rates, weeds controlled, and for other use directions and precautions.

For control of Johnsongrass in Bermudagrass turf, apply **Revarian Applicators Concentrate** at 4 fl ozs (0.13 lb ae) per acre, plus glyphosate, plus surfactant. For additional control of broadleaves and vines, triclopyr may be added to the above mix at the labeled rate. Observe all precautions and restrictions on the triclopyr and glyphosate labels.

Bahiagrass. Apply **Revarian Applicators Concentrate** at 2 to 4 fl ozs (0.06 – 0.13 lb ae) per acre when the Bahiagrass is dormant or after the grass has initiated greenup but has not exceeded 25% greenup. Include a surfactant in the spray solution (see **Adjuvants** section for specific use directions for surfactants).

Weeds Controlled in Unimproved Bermudagrass and Bahiagrass

Common Name	Scientific Name
Bedstraw	<i>Galium</i> spp.
Bishopweed	<i>Ptilimnium capillaceum</i>
Buttercup	<i>Ranunculus parviflorus</i>
Carolina geranium	<i>Geranium carolinianum</i>
Fescue	<i>Festuca</i> spp.
Foxtail	<i>Setaria</i> spp.
Little barley	<i>Hordeum pusillum</i>
Seedling Johnsongrass	<i>Sorghum halepense</i>
White clover	<i>Trifolium repens</i>
Wild carrot	<i>Daucus carota</i>
Yellow woodsorrel	<i>Oxalis stricta</i>

Grass Growth and Seedhead Suppression

Revarian Applicators Concentrate may be used to suppress growth and seedhead development of certain turfgrass in unimproved areas. When **Revarian Applicators Concentrate** is applied to desirable turf, it may result in temporary turf damage and/or discoloration. Effects to the desirable turf may vary with environmental conditions. For optimum performance, application must be made prior to culm elongation. Applications may be made before or after mowing. If applied prior to mowing, allow at least 3 days of active growth before mowing. If applied 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 damage, etc.) or severe injury or death may occur.

Bermudagrass. Apply **Revarian Applicators Concentrate** at 3 to 4 fl ozs (0.09 – 0.13 lb ae) per acre from early greenup to prior to seedhead initiation. **DO NOT** add a surfactant for this application.

Cool-season Unimproved Turf. Apply **Revarian Applicators Concentrate** at 1 fl oz (0.03 lb ae) per acre plus 0.25% nonionic surfactant. For increased suppression, **Revarian Applicators Concentrate** may be tank mixed with such products containing Glyphosate and mefluidide. Tank mixes may increase injury to desired turf. Consult each product label for labeled 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 **Revarian Applicators Concentrate**.

Total Vegetation Control where Bare Ground is Desired

Revarian Applicators Concentrate is an effective herbicide for preemergence or post emergence control of many annual and perennial broadleaf and grass weeds where bare ground is desired. **Revarian Applicators Concentrate** is particularly effective on hard-to-control perennial grasses. **Revarian Applicators Concentrate** at 12-48 fl. oz. per acre (0.4 to 1.5 lbs. (ae) imazapyr) 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 **Revarian Applicators Concentrate** 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 restrictions and precautions for all products used when making an application involving tank mixes.

Applications of **Revarian Applicators Concentrate** may be made any time of the year. Use equipment calibrated to deliver desired gallons per acre spray volume and uniformly distribute the spray pattern over the treated area.



Postemergence Application. Always use a spray adjuvant (see Adjuvants section of this label) when making a post emergence application. For optimum performance on tough-to-control annual grass weeds, apply at a total volume of 100 gallons per acre or less. For quicker burndown or brownout of target weeds, **Revarian Applicators Concentrate** may be tank mixed with glyphosate. Tank mixes with 2,4-D or products containing 2,4-D may reduce the performance of **Revarian Applicators Concentrate**. Always follow the more restrictive label restrictions and precautions for all products used when tank mixing.

Spot Treatment. **Revarian Applicators Concentrate** 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% **Revarian Applicators Concentrate** plus an adjuvant. For increased burndown, include glyphosate as a tank mixture. For added residual weed control or to increase the weed spectrum, add products containing proflaminate or dicamba. Always follow the more restrictive label restrictions and precautions for all products used when tank mixing.

Control of Undesirable Weeds under Paved Surfaces

Revarian Applicators Concentrate 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.

Use **Revarian Applicators Concentrate** 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, remove them by scalping with a grader blade to a depth sufficient to ensure their complete removal. Paving must 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.

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

Applications must be made to the soil surface only when final grade is established. 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 48 fl. oz. (1.5 lb. (ae) imazapyr) 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 Treatment and Crack-and-crevice Treatment

Use **Revarian Applicators Concentrate** as an initial or follow-up treatment to control weed escapes or weed encroachment in a bareground situation, including cracks and crevices in paved surfaces including roadways, runways, and parking lots.

For Spot Treatment Weed Control in Grass Pasture and Rangeland

For the control of undesirable vegetation in grass pasture and rangeland, **Revarian Applicators Concentrate** may be applied as a spot treatment at a rate of 1 to 24 fluid ounces (0.03 – 0.75 lb ae) per acre using any of the ground application methods as described in this label. Spot applications may not exceed more than 1/10 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.

Restrictions

Maximum Rate – Annual

- **DO NOT** apply more than 24 fl. oz. of this product (0.75 lbs. (ae) imazapyr) per acre.

Maximum Rate – Single Application

- **DO NOT** apply more than 24 fl. oz. of this product (0.75 lbs. (ae) imazapyr) per acre.

For Spot Treatments:

- **DO NOT** apply more than 0.55 fl oz (0.17 lb (ae) imazapyr) per 1000 sq ft per single application.
- **DO NOT** apply more than 0.55 fl oz (0.17 lb (ae) imazapyr) per 1000 sq ft per year.

Maximum Number of Applications Per Year

- **DO NOT** apply more than 1 application per year.

Grazing and Haying Restrictions

- There are no grazing restrictions following **Revarian Applicators Concentrate** application.
- **DO NOT** cut forage grass for hay for 7 days after **Revarian Applicators Concentrate** application.

Rangeland Use Instructions

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

To ensure the protection of threatened and endangered plants when applying **Revarian Applicators Concentrate** to rangeland:

- Federal agencies must follow NEPA regulations to ensure protection of threatened and endangered plants.
- 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.
- 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.

See the appropriate section(s) of this label for specific use directions for the desired rangeland vegetation management objective.

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

Rotational Crop Instructions

Rotational crops may be planted 12 months after applying **Revarian Applicators Concentrate** at the specified pasture and rangeland rate. Following 12 months after an **Revarian Applicators Concentrate** application 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/rangeland and grown to maturity. The test strip must 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 **Revarian Applicators Concentrate** in accordance with label directions is expected to result in normal growth of rotational crops in most situations; however, various environmental and agronomic factors make it impossible to eliminate all risks associated with the use of this product and, therefore, rotational crop injury is always possible.

Terrestrial Weed Control

In terrestrial sites, **Revarian Applicators Concentrate** will provide preemergence or postemergence control with residual control of the following target vegetation species at the rates listed. Residual control refers to control of newly germinating seedlings in both annuals and perennials. In general, annual weeds may be controlled by preemergence or postemergence applications of **Revarian Applicators Concentrate**. For established biennials and perennials, postemergence applications of **Revarian Applicators Concentrate** will provide the best control.

The rates shown below pertain to broadcast applications and indicate the relative sensitivity of these weeds. The relative sensitivity must be referenced when preparing low-volume spray solutions (see Low-volume Foliar Application section of Ground Application); low-volume applications may provide control of the target species with less **Revarian Applicators Concentrate** per acre than is shown for the broadcast treatments. Use **Revarian Applicators Concentrate** only in accordance with the specific use directions on this label and the leaflet label.

The relative sensitivity of the species listed following can also be used to determine the relative risk of causing nontarget plant injury if any of the species listed following 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, **Revarian Applicators Concentrate** must be tank mixed or applied sequentially with an appropriate registered herbicide having a different mode of action to ensure control.

Grass Weeds

Common Name	Scientific Name	Growth Habit ²
Apply 16-24 fl oz/A¹ (0.5 – 0.75 lb ae)		
Annual bluegrass	<i>Poa annua</i>	A
Broadleaf signalgrass	<i>Urochloa platyphylla</i>	A
Canada bluegrass	<i>Poa compressa</i>	P
Downy brome	<i>Bromus tectorum</i>	A
Fescue	<i>Festuca</i> spp.	A/P
Foxtail	<i>Setaria</i> spp.	A
Italian ryegrass	<i>Lolium multiflorum</i>	A
Johnsongrass ⁴	<i>Sorghum halepense</i>	P
Kentucky bluegrass	<i>Poa pratensis</i>	P
Napier grass ⁵	<i>Pennisetum purpureum</i>	P
Orchardgrass	<i>Dactylis glomerata</i>	P
Paragrass	<i>Urochloa mutica</i>	P
Quackgrass	<i>Agropyron repens</i>	P
Sandbur	<i>Cenchrus</i> spp.	A
Smooth brome	<i>Bromus inermis</i>	P
Apply 16-24 fl oz/A¹ (0.5 – 0.75 lb ae)		
Vaseygrass	<i>Paspalum urvillei</i>	P
Wild oats	<i>Avena fatua</i>	A
Witchgrass	<i>Panicum capillare</i>	A
Apply 24-32 fl oz/A¹ (0.75 – 1.0 lb ae)		
Barnyardgrass	<i>Echinochloa crus-galli</i>	A
Beardgrass	<i>Andropogon</i> spp.	P
Bluegrass, annual	<i>Poa annua</i>	A
Bulrush ⁵	<i>Scirpus Validus</i>	P

Common Name	Scientific Name	Growth Habit ²
Cogongrass	<i>Imperata cylindrica</i>	P
Cheat	<i>Bromus secalinus</i>	A
Crabgrass	<i>Digitaria</i> spp.	A
Crowfootgrass	<i>Dactyloctenium aegyptium</i>	A
Fall panicum	<i>Panicum dichotomiflorum</i>	A
Goosegrass	<i>Eleusine indica</i>	A
Itchgrass	<i>Rottboellia exaltata</i>	A
Lovegrass ⁴	<i>Eragrostis</i> spp.	P
Maidencane ⁵	<i>Panicum hemitomon</i>	A
Panicum, browntop	<i>Panicum fasciculatum</i>	A
Panicum, Texas	<i>Panicum texanum</i>	A
Prairie threeawn	<i>Aristida oligantha</i>	P
Sandbur, field	<i>Cenchrus incertus</i>	A
Signalgrass	<i>Urochloa platyphlla</i>	A
Wild barley	<i>Hordeum</i> spp.	A
Woolly cupgrass	<i>Eriochloa villosa</i>	A
Apply 32-48 fl oz/A¹ (1.0 – 1.5 lb ae)		
Bahiagrass	<i>Paspalum notatum</i>	P
Bermudagrass ^{3,4}	<i>Cynodon dactylon</i>	P
Big bluestem	<i>Andropogon gerardii</i>	P
Dallisgrass	<i>Paspalum dilatatum</i>	P
Feathertop	<i>Pennisetum villosum</i>	P
Guineagrass	<i>Panicum maximum</i>	P
Saltgrass ³	<i>Distichlis stricta</i>	P
Sand dropseed	<i>Sporobolus cryptandrus</i>	P
Sprangletop	<i>Leptochloa</i> spp.	A
Timothy	<i>Phleum pratense</i>	P
Wirestem muhly	<i>Muhlenbergia frondosa</i>	P

¹ Use higher rates 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 Not registered for use in California.

Broadleaf Weeds

Common Name	Scientific Name	Growth Habit ²
Apply 1.0 to 1.5 pts/A¹ (0.5 – 0.75 lb ae)		
Burdock	<i>Arctium</i> spp.	B
Carolina geranium	<i>Geranium carolinianum</i>	A
Carpetweed	<i>Mollugo verticillata</i>	A
Clover	<i>Trifolium</i> spp.	A/P
Common chickweed	<i>Stellaria media</i>	A
Common ragweed	<i>Ambrosia artemisiifolia</i>	A
Dandelion	<i>Taraxacum officinale</i>	P
Dogfennel	<i>Eupatorium capillifolium</i>	A
Filaree	<i>Erodium</i> spp.	A
Fleabane	<i>Erigeron</i> spp.	A
Hoary vervain	<i>Verbena stricta</i>	P
Indian mustard	<i>Brassica juncea</i>	A
Kochia	<i>Kochia scoparia</i>	A
Lambsquarters	<i>Chenopodium album</i>	A

Common Name	Scientific Name	Growth Habit ²
Lespedeza ³	<i>Lespedeza</i> spp.	P
Miner's Lettuce	<i>Montia perfoliata</i>	A
Mullein	<i>Verbascum</i> spp.	B
Nettleleaf goosefoot	<i>Chenopodium murale</i>	A
Oxeye daisy	<i>Chrysanthemum leucanthemum</i>	P
Pepperweed	<i>Lepidium</i> spp.	A
Pigweed	<i>Amaranthus</i> spp.	A
Puncturevine	<i>Tribulus terrestris</i>	A
Russian thistle	<i>Salsola kali</i>	A
Smartweed	<i>Polygonum</i> spp.	A/P
Sorrell	<i>Rumex</i> spp.	P
Sunflower	<i>Helianthus</i> spp.	A
Sweet clover	<i>Melilotus</i> spp.	A/B
Tansymustard	<i>Descurainia pinnata</i>	A
Western ragweed	<i>Ambrosia psilostachya</i>	P
Wild carrot	<i>Daucus carota</i>	B
Wild lettuce	<i>Lactuca</i> spp.	A/B
Wild parsnip	<i>Pastinaca sativa</i>	B
Wild turnip	<i>Brassica campestris</i>	B
Woollyleaf bursage	<i>Franseria tomentosa</i>	P
Yellow woodsorrel	<i>Oxalis stricta</i>	P
Apply 24-32 fl oz/A¹ (0.75 – 1.0 lb ae)		
Broom snakeweed	<i>Gutierrezia sarothrae</i>	P
Bull thistle	<i>Cirsium vulgare</i>	B
Burclover	<i>Medicago</i> spp.	A
Chickweed, mouseear	<i>Cerastium vulgatum</i>	A
Clover, hop	<i>Trifolium procumbens</i>	A
Cocklebur	<i>Xanthium strumarium</i>	A
Cudweed	<i>Gnaphalium</i> spp.	P
Desert camelthorn	<i>Alhagi pseudalhagi</i>	P
Dock	<i>Rumex</i> spp.	P
Fiddleneck	<i>Amsinckia intermedia</i>	A
Goldenrod	<i>Solidago</i> spp.	P
Henbit	<i>Lamium amplexicaule</i>	A
Knotweed, prostrate	<i>Polygonum aviculare</i>	A/P
Pokeweed	<i>Phytolacca americana</i>	P
Purslane	<i>Portulaca</i> spp.	A
Pusley, Florida	<i>Richardia scabra</i>	A
Rocket, London	<i>Sisymbrium irio</i>	A
Rush skeletonweed ⁴	<i>Chondrilla juncea</i>	B
Saltbush	<i>Atriplex</i> spp.	A
Shepherdspurse	<i>Capsella bursa-pastoris</i>	A
Spurge, annual	<i>Euphorbia</i> spp.	A
Stinging nettle ⁴	<i>Urtica dioica</i>	P
Velvetleaf	<i>Abutilon theophrasti</i>	A
Yellow starthistle	<i>Centaurea solstitialis</i>	A
Apply 32 – 48 fl oz/A¹ (1.0 – 1.5 lb ae)		
Arrowwood	<i>Pluchea sericea</i>	A
Canada thistle	<i>Cirsium arvense</i>	P
Giant ragweed	<i>Ambrosia trifida</i>	A

Common Name	Scientific Name	Growth Habit ²
Gray rabbitbrush	<i>Chrysothamnus nauseosus</i>	P
Little mallow	<i>Malva parviflora</i>	B
Milkweed	<i>Asclepias</i> spp.	P
Primrose	<i>Oenothera kunthiana</i>	P
Silverleaf nightshade	<i>Solanum elaeagnifolium</i>	P
Sowthistle	<i>Sonchus</i> spp.	A
Texas thistle	<i>Cirsium texanum</i>	P

¹ Use higher rates 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.

Vines and Brambles

Common Name	Scientific Name	Growth Habit ²
Apply 8 fl oz/A' (0.25 lb ae)		
Field bindweed	<i>Convolvulus arvensis</i>	P
Hedge bindweed	<i>Calystegia sepium</i>	A
Apply 16-24 fl oz/A' (0.5 – 0.75 lb ae)		
Wild buckwheat	<i>Polygonum convolvulus</i>	P
Apply 24-32 fl oz/A' (0.75 – 1.0 lb ae)		
Greenbriar	<i>Smilax</i> spp.	P
Honeysuckle ³	<i>Lonicera</i> spp.	P
Morningglory	<i>Ipomoea</i> spp.	A/P
Poison ivy	<i>Rhus radicans</i>	P
Redvine	<i>Brunnichia cirrhosa</i>	P
Wild rose ³ Including: Multiflora rose Macartney rose	<i>Rosa</i> spp. <i>Rosa multiflora</i> <i>Rosa bracteata</i>	P P P
Apply 24-48 fl oz/A' (1.0 – 1.5 lb ae)		
Trumpet creeper	<i>Campsis radicans</i>	P
Virginia creeper	<i>Parthenocissus quinquefolia</i>	P
Wild grape	<i>Vitis</i> spp.	P

¹ Use higher rate where heavy or well-established infestations occur.

² Growth Habit: A = Annual, B = Biennial, P = Perennial

³ Use higher labeled rates.

Brush Species

Common Name	Scientific Name	Growth Habit ²
Apply 16-32 fl oz/A' (0.5 – 1.0 lb ae)		
Brazilian peppertree	<i>Schinus terebinthifolius</i>	P
Chinese tallow tree Popcorn tree	<i>Sapium sebiferum</i>	P
Russian olive	<i>Elaeagnus angustifolia</i>	P
Sumac	<i>Rhus</i> spp.	P
Willow	<i>Salix</i> spp.	P
Apply 32-48 fl oz/A' (1.0 – 1.5 lb ae)		
Alder	<i>Alnus</i> spp.	P
American beech	<i>Fagus grandifolia</i>	P
Ash ³	<i>Fraxinus</i> spp.	P
Aspen	<i>Populus</i> spp.	P
Autumn olive	<i>Elaeagnus umbellata</i>	P
Bald cypress	<i>Taxodium distichum</i>	P
Bigleaf maple	<i>Acer macrophyllum</i>	P

Common Name	Scientific Name	Growth Habit ²
Birch ³	<i>Betula</i> spp.	P
Black gum ⁴	<i>Nyssa sylvatica</i>	P
Black oak	<i>Quercus kelloggii</i>	P
Boxelder	<i>Acer negundo</i>	P
Ceanothis	<i>Ceanothis</i> spp.	P
Cherry ^{3,4}	<i>Prunus</i> spp.	P
Chinaberry	<i>Melia azedarach</i>	P
Chinquapin	<i>Castanopsis chrysophylla</i>	P
Cottonwood	<i>Populus trichocarpa</i> <i>P. deltoides</i>	P
Cypress	<i>Taxodium</i> spp.	P
Dogwood ³	<i>Cornus</i> spp.	P
Elm	<i>Ulmus</i> spp.	P
Eucalyptus	<i>Eucalyptus</i> spp.	P
Hawthorn	<i>Crataegus</i> spp.	P
Hickory ³	<i>Carya</i> spp.	P
Huckleberry	<i>Gaylussacia</i> spp.	P
Lyonia spp. Including: Fetterbush Staggerbush	<i>Lyonia lucida</i> <i>Lyonia mariana</i>	P
Madrone	<i>Arbutus menziesii</i>	P
Maple	<i>Acer</i> spp.	P
Melaleuca	<i>Melaleuca quinquenervia</i>	P
Mulberry ^{3,6}	<i>Morus</i> spp.	P
Oak ⁷	<i>Quercus</i> spp.	P
Persimmon ⁴	<i>Diospyros virginiana</i>	P
Poison oak	<i>Rhus diversiloba</i>	P
Poplar	<i>Populus</i> spp.	P
Privet	<i>Ligustrum vulgare</i>	P
Red alder	<i>Alnus rubra</i>	P
Red maple	<i>Acer rubrum</i>	P
Saltcedar	<i>Tamarix pentandra</i>	P
Sassafras	<i>Sassafras albidum</i>	P
Sourwood ⁴	<i>Oxydendrum arboreum</i>	P
Sweetgum	<i>Liquidambar styraciflua</i>	P
Sycamore	<i>Platanus occidentalis</i>	P
Tanoak ³	<i>Lithocarpus densiflorus</i>	P
Tit ⁸	<i>Cyrilla racemiflora</i>	P
Tree of heaven	<i>Ailanthus altissima</i>	P
Vaccinium spp. Including: Blueberry Sparkleberry	<i>Vaccinium</i> spp. <i>Vaccinium arboreum</i>	P
Water willow ⁹	<i>Justicia americana</i>	P
Yellow poplar ³	<i>Liriodendron tulipifera</i>	P

¹ Use the higher rates where heavy or well-established infestations occur.

² Growth Habit: A = Annual, B = Biennial, P = Perennial

³ Use higher labeled rates.

⁴ Best control with applications prior to formation of fall leaf color

⁵ Tank mix with glyphosate

⁶ Degree of control may be species dependent.

⁷ For water oak (*Quercus nigra*), laurel oak (*Q. lauriflora*), willow oak (*Q. phellos*) and live oak (*Q. virginiana*), use higher labeled rates.

⁸ Suppression only

⁹ Not registered for use in California.

Aquatic Sites

Restrictions

- **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.
- **DO NOT apply to Aquatic Sites in New York State.**

Maximum Rate – Annual

- **DO NOT** apply more than 48 fl. oz. of this product (1.5 lbs. (ae) imazapyr) per acre per year.

Maximum Rate – Single Application

- **DO NOT** apply more than 48 fl. oz. of this product (1.5 lbs. (ae) imazapyr) per acre per single application.

Maximum Number of Applications Per Year

- **DO NOT** apply more than 1 application per acre per year.

For Spot treatments

- **DO NOT** apply more than 1.10 fl oz (0.034 lb ae) per 1000 sq ft per year.
- **DO NOT** apply more than 1.10 fl oz (0.034 lb ae) per 1000 sq ft per single application

Aquatic Weeds Controlled

Revarian Applicators Concentrate may be applied for the control of floating and emergent undesirable vegetation (see the Aquatic Weeds Controlled and the Terrestrial Weeds Controlled section) in or near bodies of water that may be flowing, nonflowing, or transient. **Revarian Applicators Concentrate** 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 **Product 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.

Revarian Applicators Concentrate must be applied to the emergent foliage of the target vegetation and has little-to-no activity on submerged aquatic vegetation. **Revarian Applicators Concentrate** concentrations resulting from direct application to water are not expected to be of sufficient concentration nor duration to provide control of target vegetation. Application must be made in such a way as to maximize spray interception by the target vegetation while minimizing the amount of overspray that enters the water.

Revarian Applicators Concentrate does not control plants that are completely submerged or have a majority of their foliage under water.

Product application: Revarian Applicators Concentrate may 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 Application** section of this label; otherwise, refer to the **Ground Application** section when using surface equipment.

Applications to moving bodies of water must 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. 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 spray boat or recreational boat backwash for 1 hour after application.

Apply **Revarian Applicators Concentrate** at 16-48 fl oz (0.5 – 1.5 lb ae) per acre depending on species present and weed density. Use the higher labeled rates for heavy weed pressure. Consult the **Aquatic Weeds Controlled** section and the **Terrestrial Weeds Controlled** section of this label for specific rates. **Revarian Applicators Concentrate** may be applied as a draw-down treatment in areas described above. Apply **Revarian Applicators Concentrate** to weeds after water has been drained and allow 14 days before reintroduction of water.

Aquatic Weeds Controlled

Revarian Applicators Concentrate will control the following target species as specified in the Use Rates and Application Directions column of the table. Rates are expressed in terms of product volume for broadcast applications and as a % solution for directed applications including spot treatments. For % solution applications, **DO NOT** apply more than 1.10 fl oz (0.034 lb ae) of **Revarian Applicators Concentrate** per 1000 sq. ft. per year.

Mixing Guide

% Solution	Product per gallon of mix (fl ozs)
0.25%	0.3 (0.01 lb ae/A)
0.5%	0.6 (0.02 lb ae/A)
1.0%	1.3 (0.04 lb ae/A)
2.0%	2.6 (0.08 lb ae/A)
3.0%	3.8 (0.12 lb ae/A)
5.0%	6.4 (0.2 lb ae/A)



Measuring Chart

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

Common Name	Scientific Name	Use Rate and Application Directions
Floating		
*Floating heart	<i>Nymphodes</i> spp.	16-32 fl oz/A (0.5 – 1.0 lb ae) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Frogbit	<i>Limnobium spongia</i>	8-16 fl oz/A (0.25 – 0.5 lb ae) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Spatterdock	<i>Nuphar luteum</i>	Apply a tank mix of 16-32 fl oz/A (0.5 – 1.0 lb ae) Revarian Applicators Concentrate + labeled rate glyphosate (0.25% Revarian Applicators Concentrate + 1.5% glyphosate) in 100 GPA water for best control. Ensure 100% coverage of actively growing emergent foliage.
*Water hyacinth	<i>Eichhornia crassipes</i>	8-16 fl oz/A (0.25 – 0.5 lb ae) applied in 100 GPA water to actively growing foliage.
*Water lettuce	<i>Pistia stratiotes</i>	8-16 fl oz/A (0.25 – 0.5 lb ae) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
Emerged		
*Alligatorweed	<i>Alternanthera philoxeroides</i>	8-32 fl oz/A (0.25 – 1.0 lb ae) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Arrowhead, duck-potato	<i>Sagittaria</i> spp.	8-16 fl oz/A (0.25 – 0.5 lb ae) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Bacopa, lemon	<i>Bacopa</i> spp.	8-16 fl oz/A (0.25 – 0.5 lb ae) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Parrot feather	<i>Myriophyllum aquaticum</i>	Must be foliage above water for sufficient Revarian Applicators Concentrate uptake. Apply 16-32 fl oz/A (0.5 – 1.0 lb ae) to actively growing emergent foliage.
*Pennywort	<i>Hydrocotyle</i> spp.	8-16 fl oz/A (0.25 – 0.5 lb ae) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Pickerelweed	<i>Pontederia cordata</i>	16-24 fl oz/A (0.5 – 0.75 lb ae) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Taro, wild, Dasheen, Elephant's ear, Coco yam	<i>Colocasia esculentum</i>	32-48 fl oz/A (1.0 – 1.5 lb ae) applied in 100 GPA with a high-quality sticker adjuvant. Ensure good coverage of actively growing emergent foliage.
*Water chestnut	<i>Trappa natans</i>	32-48 fl oz/A (1.0 – 1.5 lb ae) applied in 100 GPA with a high-quality sticker adjuvant. Ensure good coverage of actively growing emergent foliage.
*Water lily	<i>Nymphaea odorata</i>	16-24 fl oz/A (0.5 – 0.75 lb ae) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Water primrose	<i>Ludwigia uruguayensis</i>	32-48 fl oz/A (1.0 – 1.5 lb ae). Ensure 100% coverage of actively growing emergent foliage.
Terrestrial/Marginal		
*Soda apple, Aquatic nightshade	<i>Solanum tampicense</i>	16 fl oz/A (0.5 lb ae) applied to foliage.
*Bamboo, Japanese	<i>Phyllostachys</i> spp.	24-32 fl oz/A (0.75 – 1.0 lb ae) applied to the foliage when plant is actively growing; before setting seedhead. More foliage will result in greater herbicide uptake, resulting in greater root kill.
Beach, vitex	<i>Vitex rotundifolia</i>	2.5% solution + 1% MSO foliar spray. 8.5% solution stem injection (hack and squirt)
Brazilian pepper Christmasberry	<i>Schinus terebinthifolius</i>	16-32 fl oz/A (0.5 – 1.0 lb ae) applied to foliage.
Cattail	<i>Typha</i> spp.	16-32 fl oz/A (0.5 – 1.0 lb ae) 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.
Chinese tallow tree	<i>Sapium sebiferum</i>	8 to 12 fl oz/A (0.25 – 0.38 lb ae) applied to foliage.
Cogongrass	<i>Imperata cylindrica</i>	Burn foliage, till area; then fall-spray 32 fl oz/A (1.0 lb ae) Revarian Applicators Concentrate + MSO applied to new growth.
Cordgrass, prairie	<i>Spartina</i> spp.	32-48 fl oz/A (1.0 – 1.5 lb ae) applied to actively growing foliage.
*Cutgrass	<i>Zizaniopsis miliacea</i>	32-48 fl oz/A (1.0 – 1.5 lb ae) applied to actively growing foliage.
*Elephant grass Napier grass	<i>Pennisetum purpureum</i>	24 fl oz/A (0.75 lb ae) applied to actively growing foliage.
*Flowering rush	<i>Butomus umbellatus</i>	16-24 fl oz/A (0.5 – 0.75 lb ae) applied to actively growing foliage.
Giant reed Wild cane	<i>Arundo donax</i>	32-48 fl oz/A (1.0 – 1.5 lb ae) applied in spring to actively growing foliage.
*Golden bamboo	<i>Phyllostachys aurea</i>	24-32 fl oz/A (0.75 – 1.0 lb ae) 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	<i>Echinochloa colonum</i>	24-32 fl oz/A (0.75 – 1.0 lb ae) applied to actively growing foliage.
Knapweed	<i>Centaurea</i> spp.	Russian knapweed: 16-24 fl oz (0.5 – 0.75 lb ae) + MSO fall applied after senescence begins.
Knotweed, Japanese	<i>Polygonum cuspidatum</i> <i>Fallopia japonica</i>	24-32 fl oz/A (0.75 – 1.0 lb ae) applied postemergence to actively growing foliage.

Common Name	Scientific Name	Use Rate and Application Directions
Melaleuca Paperbark tree	<i>Melaleuca quinquenervia</i>	For established stands , apply 48 fl oz/A (1.5 lb ae) Revarian Applicators Concentrate + glyphosate + spray adjuvant. For best results, use methylated seed oil as an adjuvant. For ground foliar application , uniformly apply to ensure 100% coverage. For broadcast foliar control , apply aerially in a minimum of 2 passes at 10 gallons/A applied cross treatment. For spot treatment , use a 12.5% Revarian Applicators Concentrate + 25% solution of glyphosate + 1.25% MSO in water applied as a frill or stump treatment.
*Nutmeg Kili'p'opu	<i>Cyperus rotundus</i>	16 fl oz/A (0.5 lb ae) Revarian Applicators Concentrate + MSO applied early postemergence.
*Nutsedge	<i>Cyperus</i> spp.	16-24 fl oz/A (0.5 – 0.75 lb ae) postemergence to foliage or preemergence incorporated, nonincorporated, preemergence applications will not control.
Phragmites Common reed	<i>Phragmites australis</i>	32-48 fl oz/A (1.0 – 1.5 lb ae) 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 treatment. Lower rates will control phragmites in the North; higher rates are needed in the South.
*Poison hemlock	<i>Conium maculatum</i>	16 fl oz/A (0.5 lb ae) Revarian Applicators Concentrate + MSO applied pre emergence to early postemergence to rosette prior to flowering.
Purple loosestrife	<i>Lythrum salicaria</i>	8 fl oz/A (0.25 lb ae) applied to actively growing foliage.
Reed canarygrass	<i>Phalaris arundinacea</i>	24-32 fl oz/A (0.75 – 1.0 lb ae) applied to actively growing foliage.
Rose, swamp	<i>Rosa palustris</i>	16-24 fl oz/A (0.5 – 0.75 lb ae) applied to actively growing foliage.
Russian olive	<i>Elaeagnus angustifolia</i>	16-32 fl oz/A (0.5 – 1.0 lb ae) or a 0.5% solution applied to foliage.
Saltcedar Tamarisk	<i>Tamarix</i> spp.	Aerial apply 32 fl oz/A (1.0 lb ae) Revarian Applicators Concentrate + 0.25% v/v NIS to actively growing foliage during flowering. For spot spraying, use 0.5% solution of Revarian Applicators Concentrate + 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.
Smartweed	<i>Polygonum</i> spp.	16 fl oz/A (0.5 lb ae) applied early postemergence.
Sumac	<i>Rhus</i> spp.	16-24 fl oz/A (0.5 – 0.75 lb ae) applied to foliage.
Swamp morningglory Water spinach Kangkong	<i>Ipomoea aquatica</i>	8-16 fl oz/A (0.25 – 0.5 lb ae) Revarian Applicators Concentrate + MSO applied early postemergence.
Torpedo grass	<i>Panicum repens</i>	32 fl oz/A (1.0 lb ae); ensure good coverage to actively growing foliage.
*White top Hoary cress	<i>Cardaria draba</i>	8-16 fl oz/A (0.25 – 0.5 lb ae) applied in spring to foliage during flowering.
Willow	<i>Salix</i> spp.	16-24 fl oz/A (0.5 – 0.75 lb ae) Revarian Applicators Concentrate applied to actively growing foliage. Ensure good coverage.

*Not registered for use in California.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in a tightly closed container in a cool, dry place. Store in original container and out of reach of children, preferably in a locked storage area.

PESTICIDE DISPOSAL: Pesticide spray mixture or rinsate that cannot be used must be disposed of in a landfill approved for pesticides. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by the 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:

For plastic containers ≤ 5 gallons: 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 ¼ 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 if available or puncture and dispose of in a sanitary landfill, or by other procedures allowed by state and local authorities.

For plastic containers > 5 gallons: 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. Fill the container ¼ full with water. Recap 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by other procedures allowed by state and local authorities.

LIMITATION OF WARRANTY AND LIABILITY

IMPORTANT: READ BEFORE USE. Read the entire Directions for Use, Conditions of Warranties and Limitations of Liability before using this product. If these terms and conditions are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness, injury, and other unintended consequences may result because of such factors as manner of use or application (including misuse), the presence of other materials, weather conditions, and other unknown factors, all of which are beyond the control of ATTICUS, LLC. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, ATTICUS, LLC makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond statements on this label. **LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, neither ATTICUS, LLC the manufacturer, nor the Seller shall be liable for any indirect, special, incidental or consequential damages resulting from the use, handling, application, storage, or disposal of this product. To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use, handling, application, or storage of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid.

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