



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

May 15, 2015

Ms. Karina Castro
Makhteshim Agan of North America, Inc.
(d/b/a ADAMA)
3120 Highwoods Blvd., Suite 100
Raleigh, North Carolina 27604

Subject: Label Amendment – previously accepted uses incorporated and minor updates
Product Name: Ecomazapyr 2SL
EPA Registration Number: 66222-168
Application Date: 1-16-15
Decision Number: 499338

Dear Ms. Castro:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

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

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance

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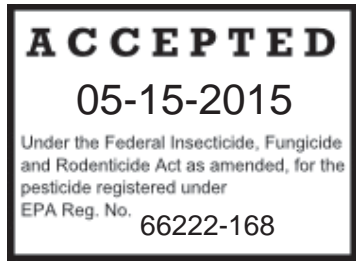
with FIFRA section 6. If you have any questions, please contact Banza Djapao at 703-305-7269 or by email at djapao.banza@epa.gov.

Sincerely,

A handwritten signature in cursive script that reads "Heather A. Garvie".

Heather A. Garvie, Product Manager 24
Fungicide Herbicide Branch (7505P)
Office of Pesticide Programs

Enclosure



Ecomazapyr 2SL

GROUP	2	HERBICIDE
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For control of undesirable emergent and floating aquatic vegetation in and around standing and flowing water, including estuarine and marine sites.

For control of undesirable vegetation growing in or around surface water in wetland, riparian and terrestrial habitats. Ecomazapyr 2SL can be used for cut stump, cut stem and frill and girdle treatments within aquatic sites.

For basal bark and stem application of brush and trees in noncropland areas.

For control of undesirable vegetation in grass pasture, rangeland and for establishment and maintenance of wildlife openings (except in the state of California). For control of undesirable vegetation in unimproved industrial noncropland Bermudagrass and Bahiagrass, and industrial non-cropland areas such as railroad, utility, pipeline and highway rights-of-way, utility plant sites, petroleum tank farms, pumping installations, transmission lines, fence rows, storage areas, around commercial and industrial building perimeters, non-irrigation ditchbanks, access roads, airfields, airports, industrial bare ground areas, and under paved surfaces.

For control of undesirable vegetation as a spot treatment of undesirable brush and hardwood vegetation.

In the State of New York, aquatic uses are not allowed.

ACTIVE INGREDIENT:	% BY WT.
Isopropylamine salt of Imazapyr (2-[4,5-dihydro-4-methyl-4-(1-methylethyl) -5-oxo-1 <i>H</i> -imidazol-2-yl]-3-pyridinecarboxylic acid)*	27.8%
OTHER INGREDIENTS:	<u>72.2%</u>
TOTAL:	100.0%

*Equivalent to 22.6% or 2 pounds acid equivalent per gallon. **Ecomazapyr 2SL** is an aqueous solution.

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.)

Manufactured for:
Makhteshim Agan of North America, Inc. (d/b/a ADAMA)
3120 Highwoods Blvd., Suite 100
Raleigh, NC 27604

EPA Reg. No. 66222-168

EPA Est. No. _____

NET CONTENTS: _____

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control center or doctor for further treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to by a poison control center or doctor. • Do not give anything to an unconscious person.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF INHALED:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency medical treatment information, call Prozar at 1-877-250-9291.	

Ecomazapyr 2SL

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PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION

Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

PHYSICAL AND CHEMICAL HAZARDS

Spray solutions of **Ecomazapyr 2SL** must be mixed, stored and applied only in stainless steel, fiberglass, plastic, and plastic-lined steel containers.

Do not mix, store or apply **Ecomazapyr 2SL** or spray solutions of **Ecomazapyr 2SL** in unlined steel (except stainless steel) containers or spray tanks.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Mixers, loaders applicators, and other handlers must wear:

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

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

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

ENGINEERING CONTROL STATEMENTS

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

User Safety Recommendations

Users should:

- Wash hands 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.
- Remove and wash contaminated clothing before reuse.

ENVIRONMENTAL HAZARDS

This product is toxic to plants and must be used strictly in accordance with the drift precautions on the label. Drift and run-off may be hazardous to plants in water adjacent to treated areas.

Do not apply to water except as specified in this label. Treatment of aquatic weeds may result in oxygen depletion or loss due to decomposition of dead plants. This oxygen loss may cause the suffocation of some aquatic organisms. Do not treat more than one-half the surface area of the water in a single operation and wait at least 10 to 14 days between treatments. Begin treatments along the shore and proceed outward in bands to allow aquatic organisms to move into untreated areas.

Do not contaminate water when disposing of equipment, washwaters or rinsate.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all label directions before using this product.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Keep containers closed to avoid spills and contamination.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170.

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.

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

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

NON-AGRICULTURAL USE REQUIREMENTS

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

Non-crop weed control is not within the scope of the Worker Protection Standard. See the **PRODUCT INFORMATION** section of this label for a description of non-crop sites.

Do not enter or allow others to enter treated areas until sprays have dried.

PRODUCT INFORMATION

Ecomazapyr 2SL is an aqueous solution intended to be mixed in water and surfactants(s) and applied as a post-emergent spray for control of most annual and perennial grasses, broadleaf weeds, vines, brambles, hardwood brush, trees for forestry site preparation and release of conifers from woody and herbaceous competition. This product may be used for selective woody and herbaceous weed control in natural regeneration of certain conifers (see pine release). This product may also be mixed in water and used for stump and cut-stem treatment for control of unwanted woody vegetation. This product can be applied along forest roads to control undesirable vegetation. This product can be used for the control of undesirable vegetation along non-irrigation ditchbanks and for the establishment and maintenance of wildlife openings. See use directions for stump and cut stem treatments and herbaceous weed control and use directions for spot treatment of undesirable hardwood vegetation.

This product may be applied on forestry sites that contain areas of temporary surface water caused by the collection of water between planting beds, in equipment ruts, or in other depressions created by forest management activities, except in the state of New York. It is permissible to treat drainage ditches, intermittent drainage, intermittently flooded low lying sites, seasonally dry flood plains, and transitional areas between upland and lowland sites when no water is present, except in the state of New York. Only the edge of drainage ditches can be treated for drainage ditches that contain water. It is also permissible to treat marshes, swamps, and bogs after water has receded, as well as seasonally dry flood deltas, except in the state of New York.

When applied postemergence to weeds, **Ecomazapyr 2SL** will control most annual and perennial grasses and broadleaf weeds in addition to many brush and vine species. **Ecomazapyr 2SL** will provide residual control of labeled weeds which germinate in the treated areas. Postemergence application with a surfactant is the method of choice in most situations, particularly for perennial weeds. For maximum affect, weeds should be growing vigorously at postemergence application and the spray solution should include a surfactant. **Ecomazapyr 2SL** solutions may be broadcast by using ground or aerial equipment, or may be applied as a spot treatment by using low-volume techniques. In addition, **Ecomazapyr 2SL** may be used for stump and cut stem treatments.

Ecomazapyr 2SL controls vegetation by absorption through foliage and roots, from which it is translocated rapidly throughout the plant, where it accumulates in rapidly-growing meristematic tissue. Treated plants stop growing soon after spray treatment. Chlorosis (yellowing of plant tissue) first appears in the newest leaves and necrosis spreads from this point.

In perennials, **Ecomazapyr 2SL** is translocated into and kills the roots and underground storage tissues to prevent most regrowth. Chlorosis and tissue necrosis may not be apparent in some plant species for several weeks after application and may take months for various woody plants, brush and trees.

PRECAUTIONS FOR AVOIDING INJURY TO NON-TARGET PLANTS

Ecomazapyr 2SL can occasionally affect non-target or desirable vegetation by root uptake of the herbicide from treated soil. Injury or loss of non-target plants may result if **Ecomazapyr 2SL** is applied onto or near desirable plants, or to areas where their roots extend, or in areas where treated soil may be washed or moved into contact with their root zone or drip line.

When making applications along shorelines where desirable plants may be present, exercise caution to avoid spray contact onto their foliage or spray application to the soil in which they are rooted. Shoreline plants with roots that extend into the waters where **Ecomazapyr 2SL** has been applied will generally not be adversely affected.

Untreated trees can occasionally be affected by root uptake of this product through movement into the top soil. Injury or loss of desirable trees or other plants may result if this product is applied on or near desirable trees or other plants, on areas where their roots extend or in locations where the treated soil may be washed or moved into contact with their roots.

RESTRICTIONS

Do not apply aerial by fixed winged aircraft for aquatic uses. Aerial applications may ONLY be made by helicopter; applications may NOT be made by airplane for aquatic uses.

Do not use on food crops.

Do not enter or allow others to enter treated areas until sprays have dried.

Do not use the vegetative matter as mulch or compost on or around desirable species if treated vegetation is to be removed from the application site.

Do not apply this product within one-half mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within one-half mile of an active potable water intake in a standing body of water, such as a lake, pond or reservoir.

Do not apply to water used for irrigation except as described in **APPLICATION TO WATERS USED FOR IRRIGATION** section of this label.

Keep away from fertilizers, insecticides, fungicides, and seeds.

Do not apply or drain or flush equipment on or near desirable plants, or onto areas where their roots may extend, or in locations where the chemical or treated soil may be washed or moved into contact with their roots.

Do not use on lawns, walks, driveways, tennis courts or similar areas where roots of desirable vegetation may extend and be exposed to potential injury and/or mortality from root uptake of **Ecomazapyr 2SL**.

Do not side trim desirable vegetation with this product unless severe injury or plant death is acceptable. Prevent drift of spray to desirable plants.

Do not use on Christmas trees.

Do not use treated waters on irrigated crops within 120 days.

Clean application equipment after using this product by thoroughly flushing with water.

RESISTANCE MANAGEMENT

Ecomazapyr 2SL is a Group 2 herbicide based on the mode of action classification system of the Weed Science Society of America and classified as a **B** acetolactate synthase inhibitor (ALS – acetohydroxyacid synthase AHAS) as classified by the Herbicide Resistant Action Committee (HRAC). Any weed population may contain or develop plants naturally resistant to **Ecomazapyr 2SL** and other Group 2 herbicides. Weed species with natural or acquired resistance to Group 2 may eventually dominate the weed population if Group 2 herbicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. Such resistant weed plants may not be effectively managed using Group 2 herbicides but may be effectively managed utilizing another herbicide alone or in mixtures from a different Group and/or by using cultural or mechanical practices. However, the herbicide mode of action classification by itself may not adequately address specific weeds that are resistant to specific herbicides.

To delay herbicide resistance, consider using diversified weed control strategies to minimize selection for weed populations resistant to one or more herbicides:

- Avoid the consecutive use of **Ecomazapyr 2SL** or other target site of action Group 2 herbicides that have a similar target site of action on the same weed species.
- Using tank-mixtures or premixes with herbicides from different target site of action Groups as long as the involved products are all registered for the same use, have different sites of action, and are both effective at the tank mix or premix rate on the weed(s) of concern.

- Base herbicide use on a comprehensive Integrated Pest Management (IPM) and Integrated Resistance Management (IRM) program.
- Use labeled rate and directions for use to delay selection for resistance.
- Monitor treated weed populations to facilitate the early identification of weeds shifts and/or weed resistance development (also provides direction on future weed management practices).
- Control escaped weeds by implementing measures to avoid allowing weeds to reproduce by seed or to proliferate vegetatively is one of the best ways to contain resistant populations.
- Contact your local extension specialist, certified crop advisor, and/or manufacturer for herbicide resistance management and/or integrated weed management recommendations for specific crops and resistant weed biotypes.

SPRAY DRIFT MANAGEMENT

Avoiding spray drift at the application site is the responsibility of the applicator and the grower. The interaction of many equipment-and weather related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

Apply only when the wind speed is 3 – 10 mph at the application site.

For ground applications:

- Do not apply with a nozzle height greater than 4 feet above the crop canopy.
- Apply only as a medium or coarser spray (ASABE standard 572.1) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

For aerial applications:

- The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or 90% of the rotor blade diameter. Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45°.
- Applicators are required to use a coarse or coarser droplet size (ASABE S572) or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater for release heights below 10 feet; Applicators are required to use a very coarse or coarser droplet size or, if specifically using a spinning atomizer nozzle, applicators are required to use a VMD of 475 microns or greater for release heights above 10 feet; Applicators must consider the effects of nozzle orientation and flight speed when determining droplet size.
- Aerial applications are prohibited into temperature inversions.

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

The applicator should be familiar with and take into account the information covered in the ***Spray Drift Management*** section.

To avoid spray drift, do not apply under windy conditions. Avoid spray overlap as crop injury may result.

Information on Droplet Size

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

Controlling Droplet Size

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle-type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length

For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height

Applications must be made at the lowest height consistent with efficacy and flight safety. Do not make at a height greater than 10 feet above the top of the largest plants unless a greater height is recommended for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment

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

Wind

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors including droplet size and equipment type determine drift potential at any given speed. Application must be avoided below 2 mph due to variable wind direction and high inversion potential.

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions

Applications must not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas

The pesticide must only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

Wind Erosion

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

AERIAL APPLICATIONS

Exercise all precautions to minimize or eliminate spray drift.

Fixed wing aircraft and helicopters can be used to apply **Ecomazapyr 2SL**; however, do not apply by fixed wing aircraft or helicopter unless appropriate buffer zones can be maintained to prevent spray drift out of the target area or where damage to desirable vegetation can be tolerated. Aerial equipment designed to minimize spray drift, such as helicopters equipped with a Microfoil™ boom, Thru-Valve™ boom or raindrop nozzles must be used and calibrated. Unless applying with a Microfoil boom, use a drift control agent at the specified label rate. To avoid drift, do not make applications during inversion conditions, when winds are gusty, or during any other conditions that promote spray drift. Do not use side trimming with **Ecomazapyr 2SL** unless death of treated vegetation is acceptable.

Thoroughly mix the specified amount of Ecomazapyr 2SL in 5 to 30 gallons of water per acre and apply uniformly with properly calibrated aerial equipment. Use a nonionic surfactant, methylated seed oil or silicone based surfactant (see the ADJUVANTS section of this label for specific directions). A drift control agent may be used at its specified label rate. An anti-foam agent may be added, if needed. Exercise all precautions to minimize or eliminate spray drift. Avoid applications during windy or gusty conditions. Use of a Microfoil boom, Thru-Valve

boom, raindrop nozzles, controlled droplet booms and nozzle configurations is recommended. Maintain adequate buffer zones to minimize potential impacts to desirable vegetation.

Thoroughly clean application equipment, including landing gear, by thoroughly flushing with water immediately after using this product. Prolonged exposure of uncoated/unpainted steel (except stainless steel) surfaces to this product may result in corrosion and failure of the exposed part. Maintaining painted surfaces may prevent corrosion.

Applicators are required to use a Coarse or coarser droplet size (ASEBE S572) or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater for release heights below 10 feet. Applicators are required to use a Very Coarse or coarser droplet size or, if specifically using a spinning atomizer nozzle, applicators are required to use a VMD of 475 microns or greater for release heights above 10 feet. Applicators must consider the effects of nozzle orientation and flight speed when determining droplet size.

Applicators are required to use upwind swath displacement.

The boom length must not exceed 60% of the wingspan or 90% of the rotor blade diameter to reduce spray drift.

Applications with wind speeds less than 3 mph and with wind speeds greater than 10 mph are prohibited.

Application into temperature inversions are prohibited.

GROUND BOOM APPLICATIONS

Use 5 or more gallons of water per acre. The actual minimum spray volume per acre is determined by the spray equipment used. Use adequate spray volume to provide accurate and uniform distribution of spray particles over the treated area and to avoid spray drift.

Applicators are required to use a nozzle height below 4 feet above the ground or plant canopy and coarse or coarser droplet size (ASABE S572) or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater.

Applications with wind speeds greater than 10 mph are prohibited.

Applications into temperature inversions are prohibited.

Maintain adequate buffer zones to minimize potential impacts to desirable vegetation.

For best results, apply the spray solution to uniformly cover the foliage of the undesirable vegetation to be controlled.

When making applications to rights-of-ways corridors where roots of desirable vegetation may extend, apply 1 to 3 pints of **Ecomazapyr 2SL** per acre in combination with recommended tank-mixes. It is not recommended to use rates higher than 3 pints per acre in such situations as injury or death of desirable vegetation may occur.

Side Trimming: DO NOT side trim with **Ecomazapyr 2SL** unless severe injury or death of the treated vegetation is acceptable. **Ecomazapyr 2SL** is readily translocated and can result in death of the entire tree.

Low Volume: Use equipment calibrated to deliver 5 to 20 gallons of spray solution per acre. Thoroughly mix 0.5 to 5% (v/v) **Ecomazapyr 2SL** in water plus surfactant (See the **ADJUVANT** section). Use an anti-foam agent at the directed rate, if needed. For difficult to control brush species (See **WEEDS CONTROLLED** section for relative susceptibility of weed species), apply the higher concentrations of herbicide and/or spray volumes but **DO NOT** apply more than 6 pints of **Ecomazapyr 2 SL** per acre. Do not excessively wet foliage. See the **MIXING GUIDE** for labeled volumes of **Ecomazapyr 2SL** and water.

GROUND EQUIPMENT

Thoroughly mix and apply the specified amount of **Ecomazapyr 2SL** in 5 to 100 gallons of water per acre. Use a nonionic surfactant to enhance weed control. A drift control agent and an anti-foam agent may also be added at the specified label rates, if needed. If desired, a spray pattern indicator may be used at the specified label rate.

To minimize spray drift, select proper nozzles to avoid spraying a fine mist, use pressures less than 50 psi and **DO NOT** spray under gusty or windy conditions (also refer to **SPRAY DRIFT MANAGEMENT** section). Use an anti-foam agent, if needed, and a spray pattern indicator, if desired. Thoroughly clean application equipment after using this product by thoroughly flushing with water. Prolonged exposure of uncoated/unpainted steel (except stainless steel) surfaces to this product may result in corrosion and failure of the exposed part.

CLEAN MIXING AND APPLICATION EQUIPMENT IMMEDIATELY AFTER USING THIS PRODUCT BY THOROUGHLY FLUSHING WITH WATER. ADJUVANTS

For optimal postemergence performance of **Ecomazapyr 2SL**, the addition of an adjuvant to the spray solution is essential to aid in the deposition and uptake of the herbicide.

For applications to aquatic systems, **ONLY** use spray adjuvants that are approved or appropriate for aquatic use.

When an adjuvant is to be used with this product, Makhteshim Agan of North America, Inc. (d/b/a ADAMA) suggests the use of a Chemical Producers and Distributors Association certified adjuvant.

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

Methylated Seed Oils or Vegetable Oil Concentrates: Methylated seed oil or vegetable oil concentrate may be used at 1.5 to 2 pints per acre. When using spray volumes greater than 30 gallons per acre, mix methylated seed oil or vegetable oil concentrate at a rate of 1% of the total spray volume.

Silicone Based Surfactants: Silicone-based surfactants allow greater spreading of the spray droplet on the leaf surface as compared to conventional nonionic surfactants. However, some silicone-based surfactants may dry too quickly and limit herbicide uptake. Refer to the surfactant manufacturer's label for specific directions.

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

Invert emulsions: Ecomazapyr 2SL can be applied as an invert emulsion (water-in-oil emulsion) designed to minimize spray drift and spray run-off, thereby delivering more herbicide to the target foliage. The spray emulsion may be formed in a single tank (batch mixing) or injected (in-line mixing). Refer to the invert chemical label for proper mixing directions.

Other: Anti-foam agents, spray pattern indicators or drift reduction agents may also be used if necessary or desired. Refer to the adjuvant manufacturer's label for specific directions.

WEEDS CONTROLLED

Ecomazapyr 2SL provides preemergence and postemergence control and some residual control of the following target weed species on terrestrial sites. Annual weeds may be controlled by preemergence or postemergence applications of Ecomazapyr 2SL. Use postemergence treatments for established biennials and perennial vegetation control.

Consider relative weed sensitivity when preparing low volume spray solutions (see **LOW VOLUME** section of **GROUND APPLICATIONS** section), since low volume treatments apply less **Ecomazapyr 2SL** per acre than is shown for the broadcast treatments. Refer to the GRASSES and BRAODLEAF WEEDS tables for broadcast rates and relative weed sensitivity.

Use **Ecomazapyr 2SL** only in accordance with the directions on this label.

GRASSES

Apply 2 – 3 pints per acre¹

Common Name	Species	Growth Habit ²
Annual bluegrass	(<i>Poa annua</i>)	A
Broadleaf signalgrass	(<i>Brachiaria 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	(<i>Sorghum halepense</i>)	P
Kentucky bluegrass	(<i>Poa pratensis</i>)	P
Lovegrass	(<i>Eragrostis</i> spp.)	A/P
*Napier grass	(<i>Pennisetum purpureum</i>)	P
Orchardgrass	(<i>Dactylis glomerata</i>)	P
Paragrass	(<i>Brachiaria mutica</i>)	P
Quackgrass	(<i>Agropyron repens</i>)	P
Sandbur	(<i>Cenchrus</i> spp.)	A
Sand dropseed	(<i>Sporobulus cryptandrus</i>)	P
Smooth brome	(<i>Bromus inermis</i>)	P
Vaseygrass	(<i>Paspalum urvillei</i>)	P
Wild oats	(<i>Avena fatua</i>)	A

Apply 3 – 4 pints per acre¹

Common Name	Species	Growth Habit²
Barnyardgrass ⁷	(<i>Echinochloa crus-gali</i>)	A
Beardgrass	(<i>Andropogon</i> spp.)	P
Bluegrass, Annual ⁷	(<i>Poa annua</i>)	A
*Bulrush	(<i>Scirpus validus</i>)	A
Cheat	(<i>Bromus secalinus</i>)	A
Crabgrass	(<i>Digitaria</i> spp.)	A
Crowfootgrass ⁷	(<i>Dactyloctenium aegyptium</i>)	A
Fall panicum	(<i>Panicum dichotomiflorum</i>)	A
Giant Reed	(<i>Arundo donax</i>)	A
Goosegrass	(<i>Eleusine indica</i>)	A
Itchgrass ⁷	(<i>Rottboellia exaltata</i>)	A
Junglerice ⁷	(<i>Echinochloa colonum</i>)	A
Lovegrass ⁷	(<i>Eragrostis</i> spp.)	A
*Maidencane	(<i>Panicum hemitomon</i>)	A
Panicum, Browntop ⁷	(<i>Panicum tasciculatum</i>)	A
Panicum, Texas ⁷	(<i>Panicum texanum</i>)	A
Prairie threeawn	(<i>Aristida oligantha</i>)	P
Reed canarygrass	(<i>Phalaris arundinacea</i>)	P
Sandbur, Field ⁷	(<i>Cenchrus incertus</i>)	A
Signalgrass ⁷	(<i>Brachiaria platyphylla</i>)	A
Torpedograss	(<i>Panicum repens</i>)	P
Wild barley	(<i>Hordeum</i> spp.)	A
Wooly Cupgrass ⁷	(<i>Eriochloa villosa</i>)	A

Apply 4 – 6 pints per acre¹

Common Name	Species	Growth Habit²
Bahiagrass	(<i>Paspalum notatum</i>)	P
Bermudagrass ³	(<i>Cynodon dactylon</i>)	P
Big bluestem	(<i>Andropogon gerardii</i>)	P
Cattail	(<i>Typha</i> spp.)	P
Cogongrass	(<i>Imperata cylindrical</i>)	P
Dallisgrass	(<i>Paspalum dilatatum</i>)	P
Feathertop	(<i>Pennisetum villosum</i>)	P
Guineagrass	(<i>Panicum maximum</i>)	P
Phragmites	(<i>Phragmites australis</i>)	P
Prairie cordgrass	(<i>Spartina pectinata</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 pretense</i>)	P
Wirestem muhly	(<i>Muhlenbergia frondosa</i>)	P

BRAODLEAF WEEDS**Apply 2 – 3 pints per acre¹**

Common Name	Species	Growth Habit²
Alligatorweed	(<i>Alternanthera philoxeroides</i>)	A/P
Burdock	(<i>Arctium</i> spp.)	B
Carpetweed	(<i>Mollugo verticillata</i>)	A
Carolina geranium	(<i>Geranium carolinianum</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

Dog fennel	(<i>Eupatorium capillifolium</i>)	A
Filaree	(<i>Erodium</i> spp.)	A
Fleabane	(<i>Erigeron</i> spp.)	A
Hoary vervain	(<i>Verbena stricta</i>)	P
Horseweed	(<i>Conyza canadensis</i>)	A
Indian mustard	(<i>Brassica juncea</i>)	A
Kochia ⁷	(<i>Kochia scoparia</i>)	A
Lambsquarters	(<i>Chenopodium album</i>)	A
*Lespedeza	(<i>Lespedeza</i> spp.)	P
Miners 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
Plantain	(<i>Plantago</i> spp.)	P
Puncturevine	(<i>Tribulus terrestris</i>)	A
Russian thistle	(<i>Salsola kali</i>)	A
Smartweed	(<i>Polygonum</i> spp.)	A/P
Sorrell	(<i>Rumax</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 3 – 4 pints per acre¹

Common Name	Species	Growth Habit ²
Broom snakeweed ⁴	(<i>Gutierrezia sarothrae</i>)	P
Bull thistle	(<i>Cirsium vulgare</i>)	B
Burclover ⁸	(<i>Medicago</i> spp.)	A
Chickweed, Mouseear	(<i>Cerastium vulgatum</i>)	A
Clover, Hop ⁷	(<i>Trifolium procumbens</i>)	A
Cocklebur	(<i>Xanthium strumarium</i>)	A
Cudweed	(<i>Gnaphalium</i> spp.)	A
Desert Camelthorn	(<i>Alhagi pseudalhagi</i>)	P
Diffuse knapweed	(<i>Centaurea diffusa</i>)	A
Dock	(<i>Rumex</i> spp.)	P
Fiddleneck ⁷	(<i>Amsinckia intermedia</i>)	A
Goldenrod	(<i>Solidago</i> spp.)	P
Henbit ⁷	(<i>Lamium aplexicaule</i>)	A
Knotweed, prostrate ⁷	(<i>Polygonum aviculare</i>)	A/P
Pokeweed	(<i>Phytolacca americana</i>)	P
Purple loosestrife ⁴	(<i>Lythrum salicaria</i>)	P
Purslane	(<i>Portulaca</i> spp.)	A
Pusley, Florida ⁷	(<i>Richardia scabra</i>)	A
Rocket, London ⁷	(<i>Sisymbrium irio</i>)	A
Rush skeletonweed ⁴	(<i>Chondrilla juncea</i>)	B
Saltbrush	(<i>Atriplex</i> spp.)	A
Shepherd's-purse ⁷	(<i>Capsella bursa-pastoris</i>)	A
Spurge, Annual	(<i>Euphorbia</i> spp.)	A
Stinging nettle ⁴	(<i>Urtica dioica</i>)	P

Velvetleaf ⁷	(<i>Abutilon theophrasti</i>)	A
Yellow starthistle	(<i>Centaurea solstitialis</i>)	A

Apply 4 – 6 pints per acre¹

Common Name	Species	Growth Habit ²
Arrowweed	(<i>Pluchea sericea</i>)	A
Canada thistle	(<i>Cirsium arvense</i>)	P
Giant ragweed	(<i>Ambrosia trifida</i>)	A
Grey rabbitbrush	(<i>Chrysothamnus nauseosus</i>)	P
Japanese bamboo/knotweed	(<i>Polygonum cuspidatum</i>)	P
Little mallow	(<i>Malva parviflora</i>)	B
Milkweed	(<i>Asclepias</i> spp.)	P
Primrose	(<i>Oenothera kunthiana</i>)	P
Russian knapweed	(<i>Centaurea repens</i>)	P
Silverleaf nightshade	(<i>Solanum eleagnifolium</i>)	P
Sowthistle	(<i>Sonchus</i> spp.)	A
Texas thistle	(<i>Cirsium texanum</i>)	P

VINES AND BRAMBLES

Common Name	Species	Growth Habit ²
Apply 1 pints per acre¹		
Field bindweed	(<i>Convolvulus arvensis</i>)	P
Hedge bindweed	(<i>Calystegia sepium</i>)	A
Apply 2-3 pints per acre¹		
Wild buckwheat	(<i>Polygonum convolvulus</i>)	P
Apply 3-4 pints per acre¹		
Greenbriar	(<i>Smilax</i> spp.)	P
Honeysuckle	(<i>Lonicera</i> spp.)	P
Morningglory	(<i>Ipomoea</i> spp.)	A/P
Poison ivy	(<i>Rhus radicans</i>)	P
Redvine	(<i>Brunnichis cirrhosa</i>)	P
Wild rose	(<i>Rosa</i> spp.)	
Including: Multiflora rose	(<i>Rosa multiflora</i>)	P
McCartney rose	(<i>Rosa bracteata</i>)	P
Apply 4-6 pints per acre¹		
*Kudzu ³	(<i>Pueraria lobata</i>)	P
Trumpet creeper	(<i>Campsis radicans</i>)	P
Virginia creeper	(<i>Parthenocissus quinquefolia</i>)	P
Wild grape	(<i>Vitis</i> spp.)	P

BRUSH SPECIES

Apply 4-6 pints per acre¹

Common Name	Species	Growth Habit ²
American beech	(<i>Fagus grandifolia</i>)	P
Ash	(<i>Fraxinus</i> spp.)	P
Bald cypress	(<i>Taxodium distichum</i>)	P
Bigleaf maple	(<i>Acer macrophyllum</i>)	P
Black locust ⁵	(<i>Robinia pseudoacacia</i>)	P
Blackgum	(<i>Nyssa sylvatica</i>)	P
Boxelder	(<i>Acer negundo</i>)	P
Brazilian peppertree	(<i>Schinus terebinthifolius</i>)	P
Cherry	(<i>Prunus</i> spp.)	P
Chinaberry	(<i>Melia azadarach</i>)	P
Chinese tallowtree	(<i>Sapium sebiferum</i>)	P
Dogwood	(<i>Cornus</i> spp.)	P
Elm ⁶	(<i>Ulmus</i> spp.)	P

Common Name	Species	Growth Habit ²
Hawthorn	(<i>Crataegus</i> spp.)	P
Hickory	(<i>Carya</i> spp.)	P
Honeylocust ⁵	(<i>Gleditsia triacanthos</i>)	P
Maple	(<i>Acer</i> spp.)	P
Melaleuca	(<i>Melaleuca quiquenervia</i>)	P
Mulberry	(<i>Morus</i> spp.)	P
Oak	(<i>Quercus</i> spp.)	P
Persimmon	(<i>Diospyros virginiana</i>)	P
*Pine ⁵	(<i>Pinus</i> spp.)	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
Russian Olive	(<i>Eleagnus angustifolia</i>)	P
Saltcedar	(<i>Tamarix ramosissima</i>)	P
Sassafras	(<i>Sassafras albidum</i>)	P
Sourwood	(<i>Oxydendrum arboretum</i>)	P
Sumac	(<i>Rhus</i> spp.)	P
Sweetgum	(<i>Liquidambar styraciflua</i>)	P
*Water willow	(<i>Justica americana</i>)	P
Willow	(<i>Salix</i> spp.)	P
Yellow poplar	(<i>Liriodendron tulipifera</i>)	P

- * Not approved for use in California
- 1 The higher rates must be used where heavy or well-established infestations occur.
- 2 Growth Habit – A=Annual, B=Biennial, P=Perennial
- 3 Use a minimum of 75 GPA – Control of established stands may require repeat applications
- 4 For best results, early postemergence applications are required.
- 5 Tank-mix with glyphosate or triclopyr.
- 6 Tank-mix with glyphosate.
- 7 For preemergence control, tank mix with Pendulum®.
- 8 For preemergence control, tank-mix with Pendulum® or Diuron 4L®.

MIXING AND APPLICATION INSTRUCTIONS

MIXING GUIDE		
% Solution	Ecomazapyr 2SL per Gallon of Mix	Amount of Ecomazapyr 2SL per 4 Gallon Backpack
0.5%	0.6 oz	2.6 oz
1.0%	1.3 oz	5.1 oz
2.0%	2.6 oz	10.2 oz
3.0%	3.8 oz	15.4 oz
5.0%	6.4 oz	25.6 oz

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

Application Tips

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

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

Proper Spray Pattern: Moisten, but **DO NOT** drench target vegetation. **DO NOT** spray to run-off.

Low Volume with Backpacks: For brush up to 4 feet tall, spray downward to cover approximately 70% of the plant foliage and the crown.

For brush 4 to 8 feet tall, apply a directed spray in a smooth vertical motion from the crown upward on at least two sides of the target vegetation, making sure to cover the crown whenever possible.

For brush over 8 feet tall, apply a directed spray in a smooth zig-zag motion from the crown upward on at least two sides of the target brush.

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

For broadcast applications, simulate a gentle rain near the top of target vegetation, allowing spray to penetrate the target foliage and contact the crown without run-off onto understory vegetation. **DO NOT** spray to run-off. Herbicide spray that contacts understory vegetation may result in severe injury or death of understory plants.

DIRECTED FOLIAR OR SPOT SPRAY EQUIPMENT

For directed or spot spray applications with aerial equipment, ground equipment or low-volume hand operated spray equipment, thoroughly mix **Ecomazapyr 2SL** according to the Mixing Guide for **Ecomazapyr 2SL** table.

Mixing Guide for Ecomazapyr 2SL						
AMOUNT OF SPRAY SOLUTION BEING PREPARED		DESIRED CONCENTRATION (fluid volume)				
		0.5%	0.75%	1.0 %	1.5%	5.0%
		(Amount of Alligare Ecomazapyr 2 SL to use)				
1 gallon	0.6 oz	0.9 oz	1.3 oz	1.9 oz	6.5 oz	
3 gallons	1.9 oz	2.8 oz	3.8 oz	5.8 oz	1.2 pints	
4 gallons	2.5 oz	3.8 oz	5.1 oz	7.7 oz	1.6 pints	
5 gallons	3.2 oz	4.8 oz	6.5 oz	9.6 oz	2 pints	
50 gallons	2 pints	3 pints	4 pints	6 pints	10 quarts	
100 gallons	4 pints	6 pints	8 pints	6 quarts	5 gallons	
2 tablespoons = 1 fluid ounce						

For optimum performance and efficacy, apply spray to uniformly cover the target vegetation foliage. Direct spray to avoid contacting desirable conifers. Avoid direct application to desired plant species as injury may occur.

IMPORTANT: DO NOT over apply to cause run-off from treated foliage. **DO NOT** exceed specified dosage rate per acre.

High Volumes: For optimum performance when spraying medium to high density brush, use equipment calibrated to deliver up to 100 gallons of finished spray per acre (GPA). Application volumes exceeding 100 GPA may result in excessive spray run-off, causing injury to desirable ground cover species. Thoroughly mix **Ecomazapyr 2SL** at 2 to 6 pints per acre in water and include a surfactant (See **ADJUVANT** section for recommendations). Use an anti-foam agent according to its label, if needed. For hard-to-control species (See **WEEDS CONTROLLED** section for relative susceptibility of weeds), use the higher concentrations of herbicide and/or spray volumes but **DO NOT** apply more than 6 pints of **Ecomazapyr 2SL** per acre. Uniformly cover the foliage of the target vegetation but **DO NOT** apply to run-off.

TANK MIXES FOR WEED AND BRUSH CONTROL

This product may be tank mixed with other registered herbicide products to provide control of species tolerant to this product.

Consult manufacturer's labels for specific rates and weeds controlled. Always follow the more restrictive label when making an application involving tank mixes. Tank mixing with 2,4-D or products which contain 2,4-D could result in reduced performance of this product when 2,4-D is used at high rates.

TANK-MIXES AND APPLICATION RATES*		
Target Vegetation	Rate of Ecomazapyr 2SL	Tank Mix

Mixed hardwoods without elm, locust, or pine	1.0 – 1.5 % by volume	Surfactant
Mixed hardwoods containing elm, locust, and pine	0.5 – 1.0% by volume	Accord® at 2 -3% by volume plus surfactant
Mixed hardwoods with locust and pine but no elm	0.5 – 1.0% by volume	Krenite® at 2 – 5% by volume plus surfactant
Mixed hardwoods locust and elm but no pine	0.5 – 1.0% by volume	MSM 60 DF® at 2 oz./Acre or 2.3 grams/gal plus surfactant
*Tank mixes with products containing 2,4-D have resulted in reduced efficacy of Ecomazapyr 2SL.		

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 1 to 2 pints per acre to the cut area. This product may be tank-mixed with Picloram (Picloram 22K) or equivalent labeled product for this use to aid in control or suppression of brush. The addition of 5% (v/v) or more of a penetrating agent can aid in uptake through the bark or exposed roots.

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

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

STUMP AND CUT STEM TREATMENTS

Ecomazapyr 2SL controls undesirable woody vegetation on non-cropland by application 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. Tree injection and cut stem treatments are most effective in late summer and early fall.

DO NOT over-apply to cause run-off or puddling of spray solution.

MIXING

Mix **Ecomazapyr 2SL** as either a concentrate or dilute solution for stump and cut stem treatments. Apply dilute solutions to the surface of the stump or to cuts on the stem of the target woody vegetation. Apply concentrate solutions to cuts on the stem. Use of the concentrate solutions permits application to fewer cuts on the stem, especially for large diameter trees. Follow the application directions below to determine proper application techniques for each type of solution.

To prepare a dilute solution, mix 8 to 12 fluid ounces of **Ecomazapyr 2SL** with one gallon of water. Except in the state of California, if temperatures are such that freezing of the spray mixture may occur, antifreeze (ethylene glycol) may be added according to manufacturer's label to prevent freezing. The use of a surfactant or penetrating agent may improve herbicide uptake through partially callused cambium tissue.

To prepare a concentrated solution, mix 2 quarts of **Ecomazapyr 2SL** with no more than 1 quart of water.

APPLICATION WITH DILUTE SOLUTIONS

For cut stump treatments: Spray or brush the solution onto the cambium area of the freshly cut stump surface. Thoroughly wet the entire cambium area (the wood next to the bark of the stump).

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

For frill or girdle treatments: Use a hatchet, machete or similar implement to make cuts through the bark around the tree at intervals no more than two inches between cut edges. Spray or brush **Ecomazapyr 2SL** solution into each cut until thoroughly wet.

APPLICATION WITH CONCENTRATED SOLUTIONS

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

For hack and squirt treatments: Use a hatchet, machete or similar implement to make cuts at a downward angle completely through the bark and cambium at approximately equal intervals around the tree. Make at least one cut for every 3 inches of DBH on the target tree as described above, using a squirt bottle, syringe, or similar device apply about 1 milliliter of concentrate solution into each cut, ensuring that the solution does not run out of the cut.

NOTE: 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.

TOTAL VEGETATION CONTROL WHERE BAREGROUND IS DESIRED

This product is an effective herbicide for preemergence or postemergence control of many annual and perennial broadleaf and grass weeds where bare ground is desired. This product is particularly effective on hard-to-control perennial grasses. This product at 1.5 to 6 pints per acre can be used alone or in tank mix with Diuron, Simazine, Vanquish®, or other registered herbicides labeled for this use. The degree and duration of control are dependent on the rate of this product used, tank-mix partner, the volume of carrier, soil texture, rainfall and other conditions. Consult manufacturer's labels for specific rates and weeds controlled. Always follow the more restrictive label when making an application involving tank-mixes. Applications of these products may be made anytime of the year. Use equipment calibrated to deliver desired gallons per acre spray volume and uniformly distribute the spray pattern over the treated area.

Postemergence Applications: Always use a spray adjuvant (See ADJUVANTS section of this label) when making a postemergence application. For optimum performance on tough to control annual grasses, apply 100 gallons per acre or less. For spot treatments, this product may be used as a follow-up treatment to control escapes or weed encroachment in a bare ground situation. To prepare the spray solution, thoroughly mix in each gallon of water 0.5 to 5% of this product plus an adjuvant.

FOR CONTROL OF UNDESIRABLE WEEDS UNDER PAVED SURFACES

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

This product must be used only where the area to be treated has been prepared according to good construction practices. If rhizomes, stolons, tubers or other vegetative plant parts are present in the site, they should be removed by scalping with a grader blade to a depth sufficient to ensure their complete removal.

IMPORTANT: Paving should follow applications of this product as soon as possible. DO NOT apply where the chemical may contact the root of desirable trees or other plants.

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

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

APPLICATION DIRECTIONS FOR PAVED SURFACES

Applications must be made to the soil surface only when final grade is established. Do not move soil following application of this product. Apply this product in sufficient water (at least 100 gals. per acre) to ensure thorough and uniform wetting of the soil surface, including the shoulder areas. Add this product at a rate of 6 pints per acre (2.2 fluid ounces 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.

FOR CONTROL OF UNDESIRABLE WEEDS IN UNIMPROVED DORMANT BERMUDAGRASS AND BAHAGRASS

Ecomazapyr 2SL may be used on unimproved dormant bermudagrass and bahiagrass turf on roadsides and utility rights-of-way. 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 with a spray pressure 20 to 50 psi.

IMPORTANT: Temporary yellowing of grass may occur when treatment is made after growth commences. DO NOT add surfactant in excess of the specified rate (1 fluid ounce per 25 gallons of spray solution). DO NOT APPLY to grass during its first growing season. DO NOT APPLY to grass that is under stress from drought, disease, insects, or other causes.

DOSAGE RATES AND TIMING

Bermudagrass – Apply **Ecomazapyr 2SL** at 6 to 12 fluid ounces per acre when the Bermudagrass is dormant. Apply this product at 6 to 8 fluid ounces per acre after the Bermudagrass has reached full green-up. Applications made during green-up will delay green-up. Include a surfactant in the spray solution (see IMPORTANT statement above).

For additional pre-emergence control of annual grasses and small seeded broadleaf weeds, add Prodiamine or Pendulum® herbicide at the rate of 3.3 to 6.6 pounds per acre. Consult the Prodiamine or Pendulum® label for weeds controlled and for other use directions and precautions.

For control of Johnsongrass in Bermudagrass turf, apply this product at 8 fluid ounces per acre plus a registered herbicide with addition of an approved surfactant. For additional control of broadleaves and vines, Triclopyr 3 or Garlon 3A herbicide may be added to the above mix at the rate of 1 to 2 pints per acre. Observe all precautions and restrictions of the labels.

Bahiagrass – Apply **Ecomazapyr 2SL** at 4 to 8 fluid ounces per acre when the Bahiagrass is dormant or after the grass has initiated green-up but has not exceeded 25% green-up. Include in the spray solution a surfactant (See Adjuvant section for specific recommendations on surfactants).

WEEDS CONTROLLED

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

GRASS GROWTH AND SEEDHEAD SUPPRESSION

Ecomazapyr 2SL may be used to suppress growth and seedhead development of certain turfgrasses in unimproved areas. When applied to desirable turf, this product may result in temporary turf damage, death, 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 three days of active growth before mowing. If following a mowing, allow sufficient time for the grasses to recover before applying this product or injury may be amplified.

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

Bermudagrass – Apply **Ecomazapyr 2SL** at 6 to 8 fluid ounces per acre from early green-up to prior to seedhead initiation. DO NOT add a surfactant for this application.

Cool Season Unimproved Turf – Apply **Ecomazapyr 2SL** at 2 fluid ounce per acre plus 0.25% nonionic surfactant. For increased suppression, this product may be tank-mixed with other products suitable for this use. Tank-mixes may increase injury to desired turf. Consult each product label for recommended turf species and other use directions and precautions. Tank mixes with 2,4-D or products containing 2,4-D at higher rates may decrease the effectiveness of this product.

FOR SPOT TREATMENT WEED CONTROL IN GRASS PASTURE AND RANGELAND

For the control of undesirable vegetation in grass pasture and rangeland **Ecomazapyr 2SL** may be applied as a spot treatment at a rate of 2 to 48 fluid ounces of product per treated acre using any of the described ground application methods. Spot applications to grass pasture and rangeland may not exceed more than one tenth of

the area to be grazed or cut for hay. See appropriate sections of this label for specific use directions for the application method and vegetation control desired. DO NOT apply more than 48 fluid ounces per acre per year. Grazing and haying restrictions: There are no grazing restrictions following application of this product. DO NOT cut forage grass for hay for seven days after application of this product.

GUIDELINES FOR RANGELAND USE

Ecomazapyr 2SL may be applied to rangeland for the control of undesirable vegetation in order to achieve one or more of the following vegetation management objectives:

1. The control of undesirable (non-native, invasive and noxious) plant species.
2. The control of undesirable vegetation in order to aid in the establishment of desirable rangeland plant species.
3. The control of undesirable vegetation in order to aid in the establishment of desirable rangeland vegetation following a fire.
4. The control of undesirable vegetation for purposes of wildlife fuel reduction.
5. The release of existing desirable rangeland plant communities from the competitive pressure of undesirable plant species.
6. The control of undesirable vegetation for purposes of wildlife habitat improvement.

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

1. Federal agencies must follow NEPA regulations to ensure protection of threatened and endangered plants.
2. 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.
3. 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.

ROTATIONAL CROP INSTRUCTIONS

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

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

ADDITIONAL WEEDS CONTROLLED

In terrestrial sites, **Ecomazapyr 2SL** 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 this product. For best results, make postemergence applications of this product for established biennials and perennials.

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 section of Ground Applications); low volume applications may provide control of the target species with less product per acre than is shown for the broadcast treatments. This product must be used only in accordance with the directions on this label.

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

Resistant Biotypes: Naturally occurring biotypes (a plant within a given species that has a slightly different, but distinct, genetic makeup from other plants of the same species) of some weeds listed on this label may not be effectively controlled. If naturally occurring resistant biotypes are present in an area, this product should be tank-mixed or applied sequentially with an appropriate registered herbicide having a different mode of action to ensure control.

BASAL APPLICATION USE INSTRUCTIONS

Thinline Basal and Stem Application

Apply **Ecomazapyr 2SL** as a thinline basal or arcing application to the stems of susceptible species such as big leaf maple (*Acer macrophyllum*), willow (*Salix spp.*), and Eucalyptus (*Eucalyptus spp.*) with stem ground line

diameter of 3 inches or less. Mix 24 to 48 ounces of this product in one gallon of basal oil containing at least 15% emulsifier. Maintain uniform mixtures with frequent agitation. Direct a thin line of the spray solution to the stems beginning a few feet from the ground and descending toward the base of the tree making a zig-zag motion. Do not over apply causing puddleling.

Low Volume Basal Bark Treatments

Apply **Ecomazapyr 2SL** at the rate of 8 to 12 ounces per gallon for low volume basal bark treatments.

Ecomazapyr 2SL at 3.0 to 5.0 % can be tank mixed with Triclopyr 4 or Garlon® 4 or other basal products to broaden the spectrum of control. Consult the herbicide labels for rates and susceptible brush species. Mixing with basal requires compatibility tests prior to mixing large quantities. Mixing aids such as emulsifiers 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 FOR BASAL BARK APPLICATIONS						
AMOUNT OF SPRAY SOLUTION BEING PREPARED	ECOMAZAPYR 2SL		ECOMAZAPYR 2SL WHEN TANK MIXING	ECOMAZAPYR 2SL WHEN TANK MIXING	TRICLOPYR 4 or GARLON 4	
	8.0 oz.	12.0 oz.	3.0 %	5.0 %	15%	20 %
1 Gallon	8.0 oz.	12.0 oz.	3.8 oz.	6.4 oz.	1.2 pts.	1.6 pts.
3 Gallons	1.5 pts.	2.25 pts.	11.5 oz.	1.2 pts.	1.8 qts.	2.4 qts.
4 Gallons	1.0 qt.	1.5 qts.	15.4 oz.	1.6 pts.	2.4 qts.	3.2 qts.
5 Gallons	1.25 qts.	1.0 qt. + 28.0 oz.	1.2 pts.	1.0 qt.	3.0 qts.	1.0 gal.
50 Gallons	3.0 gals. + 1.0 pt.	4.0 gals. + 2.75 qts.	1.5 gals.	2.5 gals.	7.5 gals.	10.0 gals.
100 Gallons	6.0 gals. + 1.0 qt.	9.0 gals. + 1.5 qts.	3.0 gals.	5.0 gals.	15.0 gals	20.0 gals.

COMPATIBILITY

Before full-scale mixing of this product with other pesticides, emulsifiers, fertilizers, surfactants or oils, you must 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.

USE FOR SPOT TREATMENT OF UNDESIRABLE BRUSH AND HARDWOOD VEGETATION

Apply **Ecomazapyr 2SL** as a directed foliar or cut stem application in conifer stands of all ages for the conifer species listed above. Mix and apply as described above for directed foliar or cut stem applications. **DO NOT** exceed the maximum labeled rates listed above. Cut stem applications may be used for spot treatment of undesirable hardwoods in Ponderosa Pine stands using 12 oz. or less of product per acre.

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

LATE ROTATION VEGETATION CONTROL IN WESTERN CONIFERS

In California, the Pacific Northwest and Inland Northwest, broadcast aerial applications of this product up to 48 fl. oz./A are permissible in conifer stands that are targeted for harvesting the year following treatment. Use minimum spray volume of 15 gallons per acre. Do not use this treatment if conifer injury or mortality cannot be tolerated.

BAG AND SPRAY APPLICATIONS FOR CONIFER RELEASE

In Douglas fir and Ponderosa pine stands, broadcast applications of this product up to 32 fl. oz./A are permissible when the trees are covered by bags prior to the application. The bags must prevent the spray mix from contacting the conifer foliage. On sites with coarse textured soils (e.g., decomposed granite, pumice, sandy or rocky sites) or low levels of soil organic matter (generally 5% or less) significant conifer growth inhibition and mortality is possible. Do not use this treatment on these types of sites if conifer growth inhibition and mortality cannot be tolerated.

AQUATIC USE SECTION

USE PRECAUTIONS AND RESTRICTIONS FOR AQUATICS

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

Applications may only be made for the control of undesirable emergent and floating aquatic vegetation in and around standing and flowing water, including estuarine and marine sites. Applications may be made to control undesirable wetland, riparian and terrestrial vegetation growing in or around surface water.

Aerial application is restricted to helicopter only.

Application of this product can only be made by federal or state agencies, such as Water Management District personnel, municipal officials and the U.S. Army Corps of Engineers, or those applicators who are licensed or certified as aquatic pest control applicators and are authorized by the state or local government.

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

Application to public waters: Applications may be made to public waters such as ponds, lakes, reservoirs, marshes, bayous, drainage ditches, canals, streams, rivers, and other slow moving or quiescent bodies of water for control of aquatic weeds or for control of riparian and wetland weed species.

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.

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 Potable Water Intakes: Do not apply this product directly to water within one-half mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within one-half mile of an active potable water intake in a standing body of water such as lake, pond or reservoir. To make aquatic applications around and within one-half 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, which 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 which are no longer in use, such as those replaced by connections to wells or a municipal water system, are not considered to be active potable water intakes. This restriction does not apply to intermittent, inadvertent over spray of water in terrestrial use sites.

Use Sites: This product is an aqueous solution to be mixed with water and a surfactant and applied as a spray solution to control floating and emergent undesirable vegetation (see **AQUATIC WEEDS CONTROLLED** section and the **ADDITIONAL WEEDS CONTROLLED** section) in or near bodies of water which may be flowing, non-flowing, or transient. This product may be applied to specified aquatic sites that include lakes, rivers, streams, ponds, seeps, drainage ditches, canals, reservoirs, swamps, bogs, marshes, estuaries, bays, brackish water, transitional areas between terrestrial and aquatic sites and seasonal wet areas. See **AQUATIC USE** 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 non-crop areas and are part of the intended treatment area:

Herbicidal Activity: This product will control most annual and perennial grasses and broadleaf weeds in addition to many brush and vine species with some residual control of undesirable species that germinate above the waterline. This product is readily absorbed through emergent leaves and stems and is translocated rapidly throughout the plant, with accumulation in the meristematic regions. Treated plants stop growing soon after spray application. Chlorosis appears first in the newest leaves, and necrosis spreads from this point. In perennials, the herbicide is translocated into, and kills, underground or submerged storage organs, which prevents regrowth. Chlorosis and tissue necrosis may not be apparent in some plant species until two or more weeks after application. Complete kill of plants may not occur for several weeks. Performance of this product may be reduced

if rainfall occurs within 2 hours of application. **This product does not control plants which are completely submerged or have a majority of their foliage under water.**

ADJUVANTS - AQUATICS

For this purpose, **ONLY** use spray adjuvants that are approved or appropriate for aquatic use.

APPLICATION TO WATERS USED FOR IRRIGATION

The use of treated waters on irrigated crops within 120 days of treatment is prohibited.

Seasonal Irrigation Water: This product may be applied during the off-season to surface waters that are used for irrigation on a seasonable basis, provided that there is a minimum of 120 days between product application and the first use of treated water for irrigation purposes or until product residue levels are determined by laboratory analysis, or other appropriate means of analysis, to be 1.0 ppb or less.

Irrigation Canals/Ditches: Do not apply this product to irrigation canals/ditches unless the 120-day restriction on irrigation water usage can be observed or product residue levels are determined by laboratory analysis, or other appropriate means of analysis, to be 1.0 ppb or less. Do not apply this product to dry irrigation canals/ditches.

Quiescent or Slow Moving Waters: In lakes and reservoirs DO NOT apply this product 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 active for a minimum 120 days after application or until product residue levels are determined by laboratory analysis, or other appropriate means of analysis, to be 1.0 ppb or less.

Moving Water: Do not apply within one-half mile downstream of an active irrigation water intake. When making applications upstream from an active irrigation water intake, the intake must be turned off for a period of time sufficient to allow the upstream portion of treated water to completely flow past the irrigation intake before use can resume. Shut off time will be determined by the speed of water flow and the distance and length of water treated upstream from the intake. Consult local, state and/or federal authorities before making any applications upstream from an active irrigation water intake.

Application Methods: This product must be applied to the emergent foliage of the target vegetation and has little to no activity on submerged aquatic vegetation. Product concentrations resulting from direct application to water are not expected to be of sufficient concentration or 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 over spray that enters the water. For maximum activity, weeds should be growing vigorously at the time of application and the spray solution should include a surfactant (See ADJUVANTS section for specific recommendations). This product may be selectively applied by using low-volume directed application techniques or may be broadcast-applied by using ground equipment, watercraft or by helicopter. In addition, this product may also be used for cut stump, cut stem and frill and girdle treatments within aquatic sites (see AERIAL APPLICATIONS and GROUND APPLICATIONS sections for additional details).

This product must be applied with surface or helicopter application equipment in a minimum of 5 gallons of water per acre. When applying by helicopter, follow directions under the AERIAL APPLICATIONS section of this label; otherwise refer to section on GROUND APPLICATIONS when using surface equipment.

Applications made to moving bodies of water must be made while travelling 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.

When application is to be made to target vegetation that covers a large percentage of the surface area of impounded water, treating the area in strips may avoid oxygen depletion due to decaying vegetation. Oxygen depletion may result in the suffocation of some sensitive aquatic organisms. Do not treat more than one half of the surface area of the water in a single operation and wait at least 10 to 14 days between treatments. Begin treatment along the shore and proceed outward in bands to allow aquatic organisms to move into untreated areas.

Apply this product at 1 to 6 pints per acre depending on species present and weed density. Do not exceed the maximum label rate of 6 pints per acre (3 lb. ai/A) per year. Use the higher labeled rates for heavy weed pressure. Consult the AQUATIC WEEDS CONTROLLED section and the ADDITIONAL WEEDS CONTROLLED section of this label for specific rates. This product may be applied as a draw down treatment in areas described above. Apply this product to weeds after water has been drained and allow 14 days before reintroduction of water.

TANK MIXES

This product may be tank mixed with other aquatic use herbicides for the control of emergent and floating aquatic vegetation provided that the tank mix herbicide label does not prohibit such mixing. Consult manufacturer's labels

for specific rates and weeds controlled. Always follow the more restrictive label instructions and restrictions when making an application involving tank mixes.

AQUATIC SPECIES CONTROLLED

This product will control the following target species as specified in the **INSTRUCTIONS** section of the table. Rates are expressed in terms of product volume for broadcast applications and as a percent solution for directed applications including spot treatments. For percent solution applications, DO NOT apply more than the equivalent of 6 quarts of this product per acre.

Common Name	Scientific Name	Instructions
Floating Species		
*Duckweed	<i>Lemna minor</i>	2-3 pints/acre (1% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Duckweed, Giant	<i>Spirodela polyriza</i>	2-3 pints/are (1% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Frogbit	<i>Limnobium spongia</i>	1-2 pint/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Spatterdock	<i>Nuphar luteum</i>	Apply a tank-mix of 2-4 pints/acre of this product + 4-6 pints/acre glyphosate (0.5% this product + 1.5% glyphosate) in 100 GPA water for best control. Ensure 100% coverage of actively growing, emergent foliage.
*Water Hyacinth	<i>Eichhornia crassipes</i>	1-2 pint/acre (0.5% solution) applied in 100 GPA water to actively growing foliage.
*Water Lettuce	<i>Pistia stratiotes</i>	1-2 pint/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
Emerged Species		
*Alligatorweed	<i>Alternanthera philoxeroides</i>	1-4 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage. Tank-mix with glyphosate is NOT recommended, and may reduce alligatorweed control, requiring higher product rates.
*Arrowhead, Duck-potato	<i>Sagittaria spp.</i>	1-2 pint/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Bacopa, lemon	<i>Bacopa spp.</i>	1-2 pint/acre (0.5% solution) 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 product uptake. Apply 2-4 pints to actively growing emergent foliage.
*Pennywort	<i>Hydrocotyle spp.</i>	1-2 pint/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Pickerelweed	<i>Pontederia cordata</i>	2-3 pints/acre (1% solution) 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>	4-6 pints/acre (1.5% solution) applied in 100 GPA with a high quality 'sticker' adjuvant. Ensure good coverage of actively growing, emergent foliage.
*Water lily	<i>Nymphaea odorata</i>	2-3 pints/acre (1% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Water primrose	<i>Ludwigia uruguayensis</i>	4-6 pints/acre (1.5% solution), ensure 100% coverage of actively growing, emergent foliage. Tank-mix with glyphosate is NOT recommended and may reduce water primrose control.
Terrestrial / Marginal		
*Soda Apple,	<i>Solanum tampicense</i>	2 pint/acre applied to foliage

Common Name	Scientific Name	Instructions
aquatic,Nightshade		
*Bamboo, Japanese	<i>Phyllostachys spp.</i>	3-4 pints/acre applied to the foliage when plant is actively growing. Before setting seed head. More foliage will result in greater herbicide uptake, resulting in greater root kill.
Brazilian Pepper; Christmasberry	<i>Schinus terebinthifolius</i>	2-4 pints/acre applied to foliage.
Cattail	<i>Typha spp.</i>	2-4 pints (1% solution) applied to actively growing, green foliage after full leaf elongation. Lower rates will control cattail in the north; higher rates are needed in the south.
Chinese Tallow Tree	<i>Sapium sebiferum</i>	1-1.5 pints applied to foliage.
Cogongrass	<i>Imperata cylindrica</i>	Burn foliage, till area, that Fall spray 2 quart/acre this product + MSO applied to new growth.
Cordgrass,prairie	<i>Spartina spp.</i>	4-6 pints applied to actively growing foliage.
*Cutgrass	<i>Zizaniopsis miliacea</i>	4-6 pints applied to actively growing foliage.
*Elephant Grass; Napier Grass	<i>Pennisetum purpureum</i>	3 pints/acre applied to actively growing foliage.
*Flowering rush	<i>Butumu typla</i>	2-3 pints applied to actively growing foliage.
Giant Reed, Wild Cane	<i>Arundo donax</i>	4-6 pints/acre applied in spring to actively growing foliage.
*Golden Bamboo	<i>Phyllostachys aurea</i>	3-4 pints/acre applied to the foliage when plant is actively growing before plants set seed heads. More foliage will result in greater herbicide uptake, resulting in greater root kill.
Junglerice	<i>Echinochloa colonom</i>	3-4 pints applied to actively growing foliage.
Knapweeds	<i>Centaurea species</i>	Russian Knapweed – 2 to 3 pints + 1 quart/acre MSO fall applied after senescence begins
Knotweed, Japanese (see <i>Fallopia japonica</i>)	<i>Polygonum cuspidatum</i>	3-4 pints/acre applied postemergence to actively growing foliage.
Melaleuca; Paperbark Tree	<i>Melaleuca quinquenervia</i>	For established stands, apply 6 pints/acre of this product + 6 pints/acre glyphosate + spray adjuvant. For best results, use 4 quarts/acre 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 two passes at 10 gallons/acre applied cross treatment. For spot treatment, use a 25% solution of this product + 25% solution of glyphosate + 1.25% MSO in water applied as a frill or stump treatments.
*Nutgrass; Kili'p'opu	<i>Cyperus rotundus</i>	2 pint of this product + 1 quart/acre MSO applied early postemergence.
*Nutsedge	<i>Cyperus spp.</i>	2-3 pints postemergence to foliage or preemergence incorporated, non-incorporated pre-emergence applications will not control.
Phragmites; Common Reed	<i>Phragmites australis</i>	4-6 pints/acre 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' tall before treatment. Lower rates will control phragmites in the north; higher rates are needed in the south.

Common Name	Scientific Name	Instructions
*Poison Hemlock	<i>Conium maculatum</i>	2 pint of this product + 1 quart/acre MSO applied preemergence to early postemergence to rosette, prior to flowering.
Purple Loosestrife	<i>Lythrum salicaria</i>	1 pint/acre applied to actively growing foliage.
Reed canarygrass	<i>Phalaris arundinacea</i>	3-4 pints/acre applied to actively growing foliage.
Rose, swamp	<i>Rosa palustris</i>	2-3 pints/acre applied to actively growing foliage.
Russian-Olive	<i>Elaeagnus angustifolia</i>	2-4 pints/acre or a 1% solution, applied to foliage.
Saltcedar; Tamarisk	<i>Tamarix species</i>	Aerial apply 2 quart of this product + 0.25% v/v NIS applied to actively growing foliage during flowering. For spot spraying, use 1% solution of this product + 0.25% v/v NIS and spray to wet foliage. After application, wait at least two years before disturbing treated saltcedar. Earlier disturbance can reduce overall control.
Smartweed	<i>Polygonum spp.</i>	2 pint/acre applied early postemergence.
Sumac	<i>Rhus spp.</i>	2-3 pints/acre applied to foliage.
Swamp Morning Glory; Water Spinach; Kangkong	<i>Ipomoea aquatic</i>	1-2 pint/acre of this product + 1 quart/ acre MSO applied early postemergence.
Torpedo Grass	<i>Panicum repens</i>	4 pints/acre (1 – 1.5% solution), ensure good coverage to actively growing foliage.
*White Top; Hoary Cress	<i>Cardaria draba</i>	1-2 pint/acre of this product applied to actively growing foliage, ensure good coverage.
Willow	<i>Salix spp.</i>	2-3 pints/acre of this product applied to actively growing foliage, ensure good coverage.
*Not approved for use in California		

INVERT EMULSIONS

This product can be applied as an invert emulsion. Consult the invert chemical label for proper mixing directions.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food and feed. Store in original container and out of reach of children, preferably in a locked storage area. Do not store above 100°F for extended periods of time. Do not store below 10°F.

PESTICIDE DISPOSAL: Open dumping is prohibited. Pesticide wastes are toxic. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the hazardous waste representative at the nearest EPA Regional Office for guidance.

CONTAINER HANDLING:

Rigid, Nonrefillable containers small enough to shake (i.e. with capacities equal to less than five gallons).

Nonrefillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or a mix tank or collect rinsate at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Once container is rinsed, offer for recycling if available, or puncture and dispose of in a sanitary landfill.

Rigid, Nonrefillable containers that are too large to shake (i.e. with capacities greater than 5 gallons or 50 lbs).

Nonrefillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling or reconditioning if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or a mix tank or collect rinsate at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Once container is rinsed, offer for recycling if available, or puncture and dispose of in a sanitary landfill.

Refillable Container

Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

Refilling or Returning Containers

If refilling or returning container is planned, end users are not authorized to remove tamper evident cables, one way valves or clean container.

Recycle or Disposal of Containers

End users are authorized to remove tamper evident cable as required to remove the product from the container unless the container is equipped with one way valves and refilling or returning is planned. Instructions for container rinsing and either recycling or disposal are as follows:

Bottom Discharge IBC (e.g. Schuetz Caged IBC or Snyder Square Stackable).

Pressure rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To pressure rinse the container before final disposal, empty the remaining contents from the IBC into application equipment or mix tank. Raise the bottom of the IBC by 1.5 inches on the side which is opposite of the bottom discharge valve to promote more complete product

removal. Completely pump or drain rinsate into application equipment or rinsate collection system while pressure rinsing. Continue pressure rinsing for 2 minutes or until rinsate becomes clear. Replace the lid and close bottom valve.

Top Discharge IBC, Drums, Kegs (e.g. Snyder 120 Next Gen, Bonar B120, Drums and Kegs).

Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To triple rinse the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Rinse all interior surfaces. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

LIMITATION OF WARRANTY AND LIABILITY

Read the entire directions for use, conditions of warranties and limitations of liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following **CONDITIONS, 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. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of ADAMA. All such risks shall be assumed by the user or buyer.

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LIMITATIONS OF LIABILITY: 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 or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at ADAMA's election, the replacement of product.

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