

34704-975

12/11/2006

1141



U.S. ENVIRONMENTAL PROTECTION AGENCY  
Office of Pesticide Programs  
Registration Division (7505C)  
401 "M" St., S.W.  
Washington, D.C. 20460

EPA Reg. Number:  
34704-975

Date of Issuance:  
  
DEC 11 2006

NOTICE OF PESTICIDE:  
 Registration  
 Reregistration

(under FIFRA, as amended)

Term of Issuance:  
Unconditional

Name of Pesticide Product:  
Timberland Imazapyr  
Pro 4 Forestry  
Herbicide

Name and Address of Registrant (include ZIP Code):  
Loveland Products, Inc.  
P.O. Box 1286  
Greeley, Colorado 80632-1286

Notes: Changes in labeling, including in the use of the pesticide, must be submitted to and accepted by the Registration Division prior to use of this product. Always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) provided that you:

1. Submit and/or cite all data required for registration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product.
2. On the label front, under the heading, Industrial/Transportation Uses, increase spacing between Transmission Lines and Tank Farms.

Signature of Approving Official:

Date:

12-11-06

3. Under the heading Environmental Hazards, revise to read as follows:

This product is toxic to plants. Drift and run-off may be hazardous to plants in water adjacent to treated areas. Do not apply to water except as specified on the label. Treatment of aquatic weeds may result in oxygen depletion or loss due to decomposition of dead plants. Do not treat more than one half the surface area of the water in a single operation and wait at least 10 to 14 days between treatments. Begin treatment along the shore and proceed outward in bands to allow aquatic organisms to move into untreated areas. Do not contaminate water when disposing of equipment, washwater, or rinsate. See Directions for Use for additional precautions and requirements.

Do not apply to water except as specified on 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.

4. Under the heading Directions for Use, add the following text:

Entry Restrictions:

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

5. Under the heading Precautionary Statements, include the following text:

Caution: No human or domestic...For a medical emergency involving this product call 1-800-301-7976. **Have the product container or label with you when calling the poison control center or doctor, or going for treatment.**

6. Under the heading Personal Protective Equipment (PPE), include the following statement.

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

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

7. Immediately following the User Safety Recommendations, revise to read as follows:

Remove PPE immediately after handling this product. **Wash** the outside of gloves...thoroughly change into clean clothing.

8. Under the heading Use Precautions, add the following statement.

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

9. Under the heading Agricultural Use Requirements, revise the following sentences to include the following:

Do not enter or allow...entry interval of **48** hours.

PPE required for early entry into treated...or water is:  
Coveralls, Chemical-resistant gloves made of any waterproof material, shoes plus socks, **and protective eyewear.**

10. Under the heading Directions for Use add the following text:

Spray drift requirements

Aerial Applications:

(1) 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 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 effect of nozzle orientation and flight speed when determining droplet size.

11. On page 4, under the heading "Note Regarding Resistant Biotypes", the Agency recommends that the resistant category of weed biotypes be listed on the final page of the label.

12. On page 4, under the heading "Precautions for Avoiding Injury to Non-Target Plants", revise the last paragraph as follows:

The information that follows is guidance for managing and minimizing off-target exposure of this product.

13. On page 15, under the heading Forestry and Non-Crop Sites, provide the specific use rate of 4.0 - 6.0 (pints/Acre) for brush control or refer to page 14.

14. Add the following text to **Tank Mixing** sections on label:

This product may be tank-mixed with products listed provided the tank-mixed product is registered for use on this (these sites). Follow the more restrictive use directions, precautions, and limitations on the labels of the products in the tank mix.

- 15. Application rates on page 9 are too high and must be adjusted down.
- 16. On page 9, define "A,P" within the Life Cycle column (Annual, Perennial) and define Pints/Acre of what (product name)?
- 17. On page 4, under the heading Precautions for Avoiding Injury to Non-Target Plants, revise the last 4 sentences preceding the Spray Drift heading.

The information that follows is guidance for managing and minimizing off-target exposure of this product.

- 18. Under the heading Spray Drift, include the following text:  
Spray drift requirements

Aerial Applications:

(1) 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 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 effect of nozzle orientation and flight speed when determining droplet size.

- 19. On page 5, delete Controlling Droplet Size heading and text.
- 20. Delete the heading Application Height and related text
- 21. Delete the heading Wind, and related text.
- 22. Delete the heading Temperature and Inversions and related text.
- 23. Delete the heading Wind Erosion, and related text.
- 24. On page 15, specify use rates or cite the location where use rates are found.
- 25. On page 27, under the heading Control of Weeds Under Paved Surfaces, revise the following sentence.

Desirable plants may **be injured** or killed...of the branch extremities).

- 26. On page 30, under the heading Aquatic Applications, revise the following sentence:

Aquatic applications may be ...water for control of **undesirable** floating and emergent aquatic vegetation or terrestrial vegetation growing in or around surface water.

27. On page 30, under the heading Aquatic Use Precautions and Restrictions revise the following statement.

**Only non-invasive** plants or plants determined...weeds do not exist.

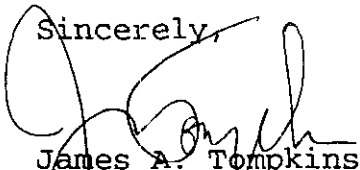
28. On page 31, under the heading Instructions for Aquatic Applications, revise the following sentence.

In general applications should be made in a manner that maximizes spray **interception** by the target vegetation and minimizes overspray into the water.

29. Add the phrase "EPA Registration No. 34704-975".

Submit three (3) copies of your final printed labeling before you release the product for shipment.

Enclosed for your records is a copy of your label stamped "Accepted with Comments".

Sincerely,  
  
James A. Tompkins  
Product Manager (25)  
Herbicide Branch  
Registration Division (7505P)

6/41

# Timberland Imazapyr Pro 4 Forestry Herbicide

Timberland Imazapyr Pro 4 Forestry Herbicide will control weeds, brush and undesirable aquatic vegetation in the following situations:

**Non-Cropland Uses:**

- Fence Rows
- Wildlife Openings
- Forestry Sites
- Ditchbanks (non-irrigation only)

**Industrial/Transportation Uses:**

- Roads
- Transmission Lines
- Bareground Areas
- Storage Areas
- Tank Farms
- Pumping Stations
- Under paved surfaces
- Railroads
- Pipelines

**Aquatic / Wetland Uses:**

- Estuaries
- Wetlands
- Marine environments
- Riparian zones
- Vegetation in surface water

*Note: This product is NOT to be used on food crops or Christmas Trees.*

**ACTIVE INGREDIENT:**

Isopropylamine salt of Imazapyr (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid)\* 53.1%

**OTHER INGREDIENTS:**

46.9%

**TOTAL:**

100.0%

\*Equivalent to 43.3% (2-[4,6-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid or 4 pounds acid per gallon.

**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.)

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION:** No human or domestic animal hazard statements are required. Follow instructions for Personal Protective Equipment and User Safety Recommendations. For a medical emergency involving this product call 1-800-301-7976.

**ENVIRONMENTAL HAZARDS**

For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate. This herbicide is phytotoxic at extremely low concentrations. Non-target plants may be adversely affected from drift.

DO NOT apply to water except as specified on 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.

EPA Reg. No. 34704-

EPA Est. No.

Manufactured with COMMENTS  
In EPA Letter Dated:  
DEC 11 2006

Loveland Products, Inc.  
P.O. Box 1286  
Greeley, CO 80632

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No.

NET CONTENTS:

34704-975

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

**Applicators and other handlers must wear:** Long-sleeved shirt and long pants, Chemical-resistant gloves made of any waterproof material and shoes plus socks.

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

### USER SAFETY RECOMMENDATIONS

Users should: Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Remove clothing/PPE immediately if pesticides get 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.

### PHYSICAL OR CHEMICAL HAZARDS

Mix, store and apply spray solutions of **Timberland Imazapyr Pro 4 Forestry Herbicide** only in stainless steel, fiberglass, plastic and plastic-lined steel containers.

DO NOT mix, store or apply **Timberland Imazapyr Pro 4 Forestry Herbicide** or spray solutions of **Timberland Imazapyr Pro 4 Forestry Herbicide** in unlined steel (except stainless steel) containers or spray tanks.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. **Timberland Imazapyr Pro 4 Forestry Herbicide** may be used only in accordance with the recommendations and restrictions in this label. 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.

The following methods of application may be used to apply **Timberland Imazapyr Pro 4 Forestry Herbicide**: Helicopters, ground operated sprayers, backpack and pump sprayers and tree injection equipment.

### USE PRECAUTIONS

- Domestic use of this product is prohibited
- Do not apply this product to Christmas trees or to food crops
- Do not make any applications of this product to flowing water that is one-half mile or less upstream of an active potable water intake.
- Do not make any applications of this product to standing water (such as lakes or reservoirs) that is one-half mile or less from an active potable water intake. See the Aquatic Applications section for specific instructions when making applications to water bodies.
- To help prevent accidental exposure of desirable vegetation to this product, do not allow this product to come into contact with seeds, fertilizers, insecticides and fungicides.
- When flushing and draining equipment, do not allow rinsate to enter areas where sensitive or desirable plants or their roots may be exposed.

- Side trimming desirable vegetation with this product may cause severe injury or death of the treated plants.
- Prevent spray drift from coming into contact with desirable plants.
- To avoid spills and contamination, keep containers closed when not in use.
- Refer to the "Application to Waters Used for Irrigation" section of this label prior to treating irrigation ditches or water used for crop irrigation.
- Do not apply more than 1.5 lb imazapyr (3 pts of product) per acre per year.
- Aerial application is restricted to helicopter only.

**Recommended Water Volumes**

The spray volume used should be sufficient to create an accurate and uniform spray pattern over the area to be treated while minimizing spray drift. The spray equipment used will ultimately determine the actual minimum spray volume per acres.

**Aerial Applications:** Use 2 or more gallons of water per acre unless otherwise directed on this label.

**Ground Applications (Broadcast):** Use 5 or more gallons of water per acre unless otherwise directed on this label.

**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), restricted-entry interval, and notification to workers (as applicable). The requirements in this box apply to uses of this product that are covered by the Worker Protection Standard including use on trees being grown for sale or other commercial seed production, or for production of timber or wood products, or for research purposes.

Do not enter or allow worker entry into treated areas during the restricted entry interval of 12 hours.

PPE required for early entry into treated areas that is permitted under the Worker Protection Standard and that involves direct contact with anything that has been treated, such as plants, soil or water, is: Coveralls, chemical-resistant gloves made of any waterproof material and shoes plus socks.

**NON-AGRICULTURAL USE REQUIREMENTS**

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

Do not enter treated areas until sprays have dried.

**GENERAL INFORMATION**

**Timberland Imazapyr Pro 4 Forestry Herbicide** is an aqueous solution that is prepared by mixing with water and a surfactant and applied by spraying. Plants readily absorb the product through both foliage and roots resulting in the stoppage of growth of treated plants shortly after application followed by yellowing of leaves (chlorosis) starting with the youngest vegetation. Tissue damage and death may not be obvious until several weeks after application and brush and



9/41

trees may not indicate the full effects of the herbicide until several months after application.

**Timberland Imazapyr Pro 4 Forestry Herbicide** accumulates in the meristematic regions of a plant; it also translocates to the roots, which helps in preventing perennial species from resprouting.

This product controls many brush and vine species as well as most annual and perennial grasses and broadleaf weeds. **Timberland Imazapyr Pro 4 Forestry Herbicide** also provides residual control of labeled weeds that germinate in the treated areas. While this product is most effective when applied post-emergence (especially for established biennial and perennial species), pre-emergence applications can be made when necessary. For maximum effect, applications should be made when the vegetation is vigorously growing. Use of a surfactant will also enhance the efficacy of this product and research indicates that use of methylated seed oils or vegetable oil concentrates may improve the efficacy of **Timberland Imazapyr Pro 4 Forestry Herbicide** in plants under moisture and/or temperature stress; refer to the "Adjuvants" section below for specific information on using surfactants with **Timberland Imazapyr Pro 4 Forestry Herbicide**.

Applications of **Timberland Imazapyr Pro 4 Forestry Herbicide** are rainfast one hour after treatment.

**Note Regarding Resistant Biotypes:** Naturally occurring ALS/AHAS resistant biotypes of some weeds listed on this label may not be effectively controlled by **Timberland Imazapyr Pro 4 Forestry Herbicide**. If resistant biotypes are known to exist in the area to be treated, this product should be tank mixed or applied in addition to another herbicide with a different mode of action.

#### **PRECAUTIONS FOR AVOIDING INJURY TO NON-TARGET PLANTS**

Because **Timberland Imazapyr Pro 4 Forestry Herbicide** is absorbed by plants via their roots, desirable plants may be damaged or lost due to unintended root uptake from treated soil. To avoid injury to non-target plants, do not apply this product on or near desirable plants or to areas into which their roots may extend. Also, do not apply to soil that may be eroded or moved into contact with the roots of desirable plants.

Read and observe the directions in the Aquatic Applications section if aquatic sites are present in terrestrial noncrop areas and are part of the intended treatment area.

When applying in wet environments such as shorelines, plants with roots that may extend into the water area generally not affected by uptake of this product from the water.

Do not use vegetative matter that has been treated with this product as mulch or compost on or around desirable species.

The information that follows is general guidance for managing and minimizing off-target exposure of this product. Specific use recommendations in this label may vary from these general guidelines depending on the application method and objectives, and should supersede the general information provided below.

**Spray Drift:** Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather related factors determine the potential for spray drift. The applicator and the entity of authorizing spraying are responsible for considering all these factors when making decisions.

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

1. The distance of the outer most operating nozzles must not exceed  $\frac{3}{4}$  the length of the rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

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

Spray drift from applying this product may result in damage to sensitive plants adjacent to the treatment areas. Only apply this product when the potential for drift to these and other adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species or non-target crops) is minimal. Do not apply when the following conditions exist that increase the likelihood of spray drift from intended targets: high or gusty winds, high temperatures, low humidity, temperature inversions.

To minimize spray drift, the applicator should be familiar with and take into account the following drift reduction advisory information. Additional information may be available from state enforcement agencies or the Cooperative Extension on the application of this product. The best drift management strategy and most effective way to reduce drift potential are to apply large droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see WIND, TEMPERATURE AND HUMIDITY, and TEMPERATURE INVERSIONS).

**CONTROLLING DROPLET SIZE**

- Volume – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure – Do not exceed the nozzle manufacturer’s recommended pressures. 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 air stream produces larger droplets than other orientations and is recommended practice. Significant deflection from the 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. Do not use nozzles producing a mist droplet spray.

**APPLICATION HEIGHT**

Making applications at the lowest possible height (aircraft, ground driven spray boom) that is safe and practical 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 treatment area, the applicator must compensate for this displacement by adjusting the path of the application equipment (e.g. aircraft, ground) upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller droplets, etc.).

**WIND**

Drift potential is lowest between wind speeds of 3 – 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 3 mph due to variable wind direction and high inversion potential. NOTE:

11/41

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

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small-suspended droplets to remain in a concentrated cloud, which can move in unpredictable direction 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 move laterally in a concentrated cloud (under low wind conditions) indicates an inversions, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### 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.

**Managing spray drift from aerial applications:** Applicators must follow these requirements to avoid off-target drift movement: 1) Boom Length – the distance of the outermost nozzles on the boom must not exceed ¾ the length of the wingspan or rotor, 2) Nozzle Orientation – nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees, and 3) Application Height – without compromising aircraft safety, applications should be made at a height of 10 feet or less above the crop canopy or tallest plants. Applicators must follow the most restrictive use precautions to avoid drift hazards, including those found in this labeling as well as applicable state and local regulations and ordinances.

### MIXING AND APPLICATION INSTRUCTIONS

#### HELICOPTER SPRAY EQUIPMENT:

- Preparation: Add the amount of **Timberland Imazapyr Pro 4 Forestry Herbicide** recommended in this label for the intended use to 5 – 30 gallons of water per acre, mixing thoroughly.
- Adjuvants: To increase efficacy, a compatible nonionic surfactant may be added to the spray solution. Except when applying with a Microfoil™ boom, Thru-Valve™ boom or other similar equipment, a drift control agent may be added. If necessary, a foam reducing agent may also be added.
- Application: Applications should not be made under windy or gusty conditions and all possible precautions should be taken in order to minimize or eliminate spray drift. Using a controlled droplet boom and nozzle configuration is recommended to assist in mitigating spray drift.  
Be sure to maintain adequate buffer zones.

Precautions: Because uncoated steel (except stainless steel) surfaces that experience prolonged exposure to this produce may corrode and eventually fail, thoroughly clean application and mixing equipment as well as portions of the aircraft that may have been exposed to the spray (including landing gear) immediately after use by flushing with water.

**GROUND OPERATED SPRAY EQUIPMENT:**

Preparation: Add the amount of **Timberland Imazapyr Pro 4 Forestry Herbicide** recommended in this label for the intended use to 5 – 100 gallons of water per acre, mixing thoroughly.

Adjuvants: To increase efficacy, a compatible nonionic surfactant may be added to the spray solution.  
Except when applying with a Microfoil™ boom, Thru-Valve™ boom or other similar equipment, a drift control agent may be added.  
A spray pattern indicator may be added if desired.  
If necessary, a foam reducing agent may also be added.

Applications: Uniformly cover the foliage of the vegetation to be controlled with the spray solution.  
Applications should not be made under windy or gusty conditions and all possible precautions should be taken in order to minimize or eliminate spray drift.  
Be sure to maintain adequate buffer zones.

Precautions: Because uncoated steel (except stainless steel) surfaces that experience prolonged exposure to this product may corrode and eventually fail, thoroughly clean application and mixing equipment immediately after use by flushing with water.

**DIRECTED FOLIAR OR SPOT SPRAY EQUIPMENT:**

Preparation: NOTE: Bigleaf maple requires at least 5% spray solution concentration.  
Unless otherwise directed on this label, create a 1 – 5 percent by volume solution of **Timberland Imazapyr Pro 4 Forestry Herbicide** in water using the table below:

**SPRAY SOLUTION MIXING GUIDE**

Solution Volume	Concentration			Surfactant
	1%	2.5%	5%	
1 gallon	1 1/3 oz.	3 1/3 oz.	6 2/3 oz.	1/3 oz.
3 gallons	4 oz.	10 oz.	20 oz.	1 oz.
4 gallons	5 1/3 oz.	13 1/3 oz.	1 2/3 pints	1 1/3 oz.
5 gallons	6 2/3 oz.	1 pint	1 quart	1 2/3 oz.
10 gallons	13 1/3 oz.	1 quart	2 quarts	3 1/3 oz.
25 gallons	1 quart	2.5 quarts	1.25 gallons	8 oz.
50 gallons	2 quarts	1.25 gallons	2.5 gallons	16 oz.
100 gallons	1 gallon	2.5 gallons	5 gallons	2 pints

% Solution	Amount Timberland Imazapyr Pro 4 Forestry Herbicide per Gallon of Mix	Amount Timberland Imazapyr Pro 4 Forestry Herbicide per 4 Gallon Backpack
0.25%	0.3 oz.	1.3 oz.
0.5%	0.65 oz.	2.6 oz.
1.0%	1.3 oz.	5.1 oz.
1.5%	1.9 oz.	7.7 oz.
2.5%	3.2 oz.	12.8 oz.

2 Tablespoons = 1 fluid ounce

**Adjuvants:** A minimum of ¼ percent by volume nonionic surfactant should be added to the spray solution using the last column of the above table.  
 A spray pattern indicator may be added if desired.  
 If necessary, a foam reducing agent may also be added.

**Application:** Uniformly cover the foliage of the vegetation to be controlled with the spray solution. For small brush, spray down on the crown to cover approximately 70% of the plant foliage. For larger brush, ensure coverage on as much of the crown as possible and spray at least two sides of the plant. Moisten, but do not drench target vegetation causing spray solution to run off.  
 Tips such as 4004E or 1540E that produce an even, flat spray pattern with a spray angle of 40 degrees or less will help to produce ideal deposition on the vegetation. For a straight stream and cone patter, adjustable cone nozzles such as the 5500 X3 or 5500 X4 may be used.  
 Applications should not be made under windy or gusty conditions and all possible precautions should be taken in order to minimize or eliminate spray drift.  
 Be sure to maintain adequate buffer zones.

**Precautions:** DO NOT exceed recommended dosage rate per acre.  
 DO NOT apply to the point of runoff from the treated foliage.  
 Injury may occur to desirable conifers or other plant species if applications are made directly to those plants.  
 Because uncoated steel (except stainless steel) surfaces that experience prolonged exposure to this product may corrode and eventually fail, thoroughly clean application and mixing equipment immediately after use by flushing with water.

### ADJUVANTS

When making postemergence applications of **Timberland Imazapyr Pro 4 Forestry Herbicide**, a spray adjuvant must be used.

NOTE: When applying to aquatic sites listed on this label, the adjuvant must be approved for aquatic uses.

**Nonionic Surfactants:** Add **Liberate®** at a 0.25% v/v or higher rate of the spray solution as directed on the product label (NOTE: 0.25% v/v is equivalent to 1 quart in 100 gallons).

Nonionic surfactants that have a HLB (hydrophilic to lipophilic balance) ratio between 12 and 17 and a formulated product consisting of at least 70% surfactant will provide the best results.

**Methylated Seed oils:** **MSO® Concentrate w/ Leci-tech** (Methylated seed oil or vegetable-based seed oil concentrate) may be used in place of a surfactant, and research indicates that use of these oils may improve the efficacy of **Timberland Imazapyr Pro 4 Forestry Herbicide** in

14/41

plants under moisture and/or temperature stress. Use a rate of 1.5 to 2 pints per acre, or when using spray volumes greater than 30 gallons per acre use a rate of 1% of the total spray volume.

**Silicone Based Surfactants:** Phase® or other silicon-based surfactants may cause greater spreading of droplets on the leaf surface than conventional nonionic surfactants, but may also dry more quickly; limiting herbicide uptake. Phase® surfactant should be used at the rates specified on its label.

**Invert Emulsions:** Timberland Imazapyr Pro 4 Forestry Herbicide can be applied as an invert (water-in-oil) spray emulsion that will minimize spray drift and spray run-off. The invert spray emulsion may be batch mixed or injected (in-line mixing); consult the label of the invert chemical for instructions on mixing.

**Fertilizer/Surfactant Blends:** Dispatch AMS (a nitrogen based liquid fertilizer) may be used in combination with nonionic, methylated seed oil or vegetable oil concentrate surfactants such as MSO® Concentrate with leci-tech. Tank mixing fertilizers without a surfactant is not recommended. Apply at a rate of 2 – 3 pints per acre.

If desired, other adjuvants such as spray pattern indicators or additives for reducing foaming or spray drift may be added to the mix. See the label(s) of the respective product(s) for specific instructions and application rates.

### WEEDS CONTROLLED

Timberland Imazapyr Pro 4 Forestry Herbicide controls the following weeds. Use the rates listed below for preemergence or postemergence control, as well as residual control of both annuals and perennials. For heavy or well established infestations, use the higher rates listed. These tables are based on broadcast treatments and in general, when making low-volume applications use the lower rates listed.

#### GRASSES

Common Name	Scientific Name	Life Cycle	Application Rate (Pints / Acre)
Annual Bluegrass	<i>Poa annua</i>	A	2.0 - 3.0
Bahiagrass	<i>Paspalum notatum</i>	P	4.0 - 6.0
Barnyardgrass†	<i>Echinochloa crus-gali</i>	A	3.0 - 4.0
Beardgrass	<i>Andropogon</i> spp.	P	3.0 - 4.0
Bermudagrass‡	<i>Cynodon dactylon</i>	P	4.0 - 6.0
Big bluestem	<i>Andropogon gerardii</i>	P	4.0 - 6.0
Bluegrass, Annual†	<i>Poa annua</i>	A	3.0 - 4.0
Broadleaf signalgrass	<i>Brachiaria platyphylla</i>	A	2.0 - 3.0
Bulrush	<i>Scirpus validus</i>	P	3.0 - 4.0
Canada bluegrass	<i>Poa compressa</i>	P	2.0 - 3.0
Cattail	<i>Typha</i> spp.	P	4.0 - 6.0
Cheat	<i>Bromus secalinus</i>	A	3.0 - 4.0
Cogongrass	<i>Imperata cylindrica</i>	P	4.0 - 6.0
Crabgrass	<i>Digitaria</i> spp.	A	3.0 - 4.0
Crowfootgrass†	<i>Dactyloctenium aegyptium</i>	A	3.0 - 4.0
Dallisgrass	<i>Paspalum dilatatum</i>	P	4.0 - 6.0
Downy brome	<i>Bromus tectorum</i>	A	2.0 - 3.0

downy brome

Common Name	Scientific Name	Life Cycle	Application Rate (Pints / Acre)
Fall panicum	<i>Panicum dichotomiflorum</i>	A	3.0 - 4.0
Feathertop	<i>Pennisetum villosum</i>	P	4.0 - 6.0
Fescue	<i>Festuca</i> spp.	A/P	2.0 - 3.0
Foxtail	<i>Setaria</i> spp.	A	2.0 - 3.0
Giant Reed	<i>Arundo donax</i>	A	3.0 - 4.0
Goosegrass	<i>Eleusine indica</i>	A	3.0 - 4.0
Guineagrass	<i>Panicum maximum</i>	P	4.0 - 6.0
Italian ryegrass	<i>Lolium multiflorum</i>	A	2.0 - 3.0
Itchgrass <sup>†</sup>	<i>Rottboellia exaltata</i>	A	3.0 - 4.0
Johnsongrass	<i>Sorghum halepense</i>	P	2.0 - 3.0
Junglerice <sup>†</sup>	<i>Echinochloa colonum</i>	A	3.0 - 4.0
Kentucky bluegrass	<i>Poa pratensis</i>	P	2.0 - 3.0
Lovegrass	<i>Eragrostis</i> spp.	A/P	2.0 - 3.0
Lovegrass <sup>†</sup>	<i>Eragrostis</i> spp.	A	3.0 - 4.0
Maidencane	<i>Panicum hemitomon</i>	A	3.0 - 4.0
Napier grass	<i>Pennisetum purpureum</i>	P	2.0 - 3.0
Orchardgrass	<i>Dactylis glomerata</i>	P	2.0 - 3.0
Panicum, Browntop <sup>†</sup>	<i>Panicum fasciculatum</i>	A	3.0 - 4.0
Panicum Texas <sup>†</sup>	<i>Panicum texanum</i>	A	3.0 - 4.0
Paragrass	<i>Brachiaria mutica</i>	P	2.0 - 3.0
Phragmites	<i>Phragmites australis</i>	P	4.0 - 6.0
Prairie cordgrass	<i>Spartina pectinata</i>	P	4.0 - 6.0
Prairie threeawn	<i>Aristida oligantha</i>	P	3.0 - 4.0
Quackgrass	<i>Agropyron repens</i>	P	2.0 - 3.0
Reed canarygrass	<i>Phalaris arundinacea</i>	P	3.0 - 4.0
Saltgrass <sup>†</sup>	<i>Distichlis stricta</i>	P	4.0 - 6.0
Sand dropseed	<i>Sporobolus cryptandrus</i>	A	2.0 - 3.0
Sand dropseed	<i>Sporobolus cryptandrus</i>	P	4.0 - 6.0
Sandbur	<i>Cenchrus</i> spp.	A	2.0 - 3.0
Sandbur, Field <sup>†</sup>	<i>Cenchrus incertus</i>	A	3.0 - 4.0
Signalgrass <sup>†</sup>	<i>Brachiaria platyphylla</i>	A	3.0 - 4.0
Smooth brome	<i>Bromus inermis</i>	P	2.0 - 3.0
Sprangletop <sup>†</sup>	<i>Leptochloa</i> spp.	A	4.0 - 6.0
Timothy	<i>Phleum pretense</i>	P	4.0 - 6.0
Torpedograss	<i>Panicum repens</i>	P	3.0 - 4.0
Vaseygrass	<i>Paspalum urvillei</i>	P	2.0 - 3.0
Wild barley	<i>Hordeum</i> spp.	A	3.0 - 4.0
Wild oats	<i>Avena fatua</i>	A	2.0 - 3.0
Wirestem muhly	<i>Muhlenbergia frondosa</i>	P	4.0 - 6.0
Witchgrass	<i>Panicum capillare</i>	A	2.0 - 3.0
Wooly Cupgrass <sup>†</sup>	<i>Eriochloa villosa</i>	A	3.0 - 4.0

16/41

**BROADLEAF WEEDS**

Common Name	Scientific Name	Life Cycle	Application Rate (Pints / Acre)
Alligatorweed	<i>Alternanthera philoxeroides</i>	A/P	2.0 - 3.0
Arrowhead	<i>Pluchea sericea</i>	A	4.0 - 6.0
Broom snakeweed <sup>2</sup>	<i>Gutierrezia sarothrae</i>	P	3.0 - 4.0
Bull thistle	<i>Cirsium vulgare</i>	B	3.0 - 4.0
Burclover <sup>†</sup>	<i>Medicago</i> spp.	A	3.0 - 4.0
Burdock	<i>Arctium</i> spp.	B	2.0 - 3.0
Camphorweed	<i>Heterotheca subaxillaris</i>	P	2.0 - 3.0
Canada thistle	<i>Cirsium arvense</i>	P	4.0 - 6.0
Carolina geranium	<i>Geranium carolinianum</i>	A	2.0 - 3.0
Carpetweed	<i>Mollugo verticillata</i>	A	2.0 - 3.0
Chickweed, Mouseear <sup>1</sup>	<i>Cerastium vulgatum</i>	A	3.0 - 4.0
Clover	<i>Trifolium</i> spp.	A/P	2.0 - 3.0
Clover, Hop <sup>†</sup>	<i>Trifolium procumbens</i>	A	3.0 - 4.0
Cocklebur	<i>Xanthium strumarium</i>	A	3.0 - 4.0
Common chickweed	<i>Stellaria media</i>	A	2.0 - 3.0
Common ragweed	<i>Ambrosia artemisiifolia</i>	A	2.0 - 3.0
Cudweed <sup>†</sup>	<i>Gnaphalium</i> spp.	A	3.0 - 4.0
Dandelion	<i>Taraxacum officinale</i>	P	2.0 - 3.0
Desert Camelthorn	<i>Alhagi pseudalhagi</i>	P	3.0 - 4.0
Diffuse knapweed	<i>Centaurea diffusa</i>	A	3.0 - 4.0
Dock	<i>Rumex</i> spp.	P	3.0 - 4.0
Dogfennel	<i>Eupatorium capillifolium</i>	A	2.0 - 3.0
Fiddleneck <sup>†</sup>	<i>Amsinckia intermedia</i>	A	3.0 - 4.0
Filaree	<i>Erodium</i> spp.	A	2.0 - 3.0
Fleabane	<i>Erigeron</i> spp.	A	2.0 - 3.0
Giant ragweed	<i>Ambrosia trifida</i>	A	4.0 - 6.0
Goldenrod	<i>Solidago</i> spp.	P	3.0 - 4.0
Grey rabbitbrush	<i>Chrysothamnus nauseosus</i>	P	4.0 - 6.0
Henbit <sup>†</sup>	<i>Lamium aplexicaule</i>	A	3.0 - 4.0
Hoary vervain	<i>Verbena stricta</i>	P	2.0 - 3.0
Horseweed	<i>Conyza canadensis</i>	A	2.0 - 3.0
Indian mustard	<i>Brassica juncea</i>	A	2.0 - 3.0
Japanese bamboo/knotweed	<i>Polygonum cuspidatum</i>	P	4.0 - 6.0
Knotweed, prostrate <sup>†</sup>	<i>Polygonum aviculare</i>	A/P	3.0 - 4.0
Kochia <sup>1</sup>	<i>Kochia scoparia</i>	A	2.0 - 3.0
Lambsquarters	<i>Chenopodium album</i>	A	2.0 - 3.0
Lespedeza	<i>Lespedeza</i> spp.	P	2.0 - 3.0
Little mallow	<i>Malva parviflora</i>	B	4.0 - 6.0
Milkweed	<i>Asclepias</i> spp.	P	4.0 - 6.0
Miners lettuce	<i>Montia perfoliata</i>	A	2.0 - 3.0
Mullein	<i>Verbascum</i> spp.	B	2.0 - 3.0
Nettleleaf goosefoot	<i>Chenopodium murale</i>	A	2.0 - 3.0
Oxeye daisy	<i>Chrysanthemum leucanthemum</i>	P	2.0 - 3.0



17/41

Common Name	Scientific Name	Life Cycle	Application Rate (Pints / Acre)
Pepperweed	<i>Lepidium</i> spp.	A	2.0 - 3.0
Pigweed	<i>Amaranthus</i> spp.	A	2.0 - 3.0
Plantain	<i>Plantago</i> spp.	P	2.0 - 3.0
Pokeweed	<i>Phytolacca Americana</i>	P	3.0 - 4.0
Primrose	<i>Oenothera kunthiana</i>	P	4.0 - 6.0
Puncturevine	<i>Tribulus terrestris</i>	A	2.0 - 3.0
Purple loosestrife <sup>2</sup>	<i>Lythrum salicaria</i>	P	3.0 - 4.0
Purslane	<i>Portulaca</i> spp.	A	3.0 - 4.0
Pusley, Florida <sup>†</sup>	<i>Richardia scabra</i>	A	3.0 - 4.0
Rocket, Lor.don <sup>†</sup>	<i>Sisymbrium irio</i>	A	3.0 - 4.0
Rush skeletonweed <sup>2</sup>	<i>Chondrilla juncea</i>	B	3.0 - 4.0
Russian knapweed	<i>Centaurea repens</i>	P	4.0 - 6.0
Russian thistle	<i>Salsola kali</i>	A	2.0 - 3.0
Saltbush	<i>Atriplex</i> spp.	A	3.0 - 4.0
Shepherd's-purse <sup>†</sup>	<i>Capsella bursa-pastoris</i>	A	3.0 - 4.0
Silverleaf nightshade	<i>Solanum elaeagnifolium</i>	P	4.0 - 6.0
Smartweed	<i>Polygonum</i> spp.	A/P	2.0 - 3.0
Sorrell	<i>Rumex</i> spp.	P	2.0 - 3.0
Sowthistle	<i>Sonchus</i> spp.	A	4.0 - 6.0
Spurge, Annual <sup>†</sup>	<i>Euphorbia</i> spp.	A	3.0 - 4.0
Stinging nettle <sup>2</sup>	<i>Urtica dioica</i>	P	3.0 - 4.0
Sunflower	<i>Helianthus</i> spp.	A/B	2.0 - 3.0
Sweet clover	<i>Melilotus</i> spp.	A/B	2.0 - 3.0
Tansymustard	<i>Descurainia pinnate</i>	A	2.0 - 3.0
Texas thistle	<i>Cirsium texanum</i>	P	4.0 - 6.0
Velvetleaf <sup>†</sup>	<i>Abutilon theophrasti</i>	A	3.0 - 4.0
Western ragweed	<i>Ambrosia psilostachya</i>	P	2.0 - 3.0
Wild carrot	<i>Daucus carota</i>	B	2.0 - 3.0
Wild lettuce	<i>Lactuca</i> spp.	A/B	2.0 - 3.0
Wild parsnip	<i>Pastinaca sativa</i>	B	2.0 - 3.0
Wild turnip	<i>Brassica campestris</i>	B	2.0 - 3.0
Woollyleaf bursage	<i>Franseria tomentosa</i>	P	2.0 - 3.0
Yellow starthistle	<i>Centaurea solstitialis</i>	A	3.0 - 4.0
Yellow woodsorrel	<i>Oxalis stricta</i>	P	2.0 - 3.0

VINES AND BRAMBLES

Common Name	Scientific Name	Life Cycle	Application Rate (Pints / Acre)
Blackberry <sup>7</sup>	<i>Rubus</i> spp.	P	4.0 - 6.0
Dewberry <sup>7</sup>	<i>Rubus</i> spp.	P	4.0 - 6.0
Field bindweed	<i>Convolvulus arvensis</i>	P	1.0
Greenbriar	<i>Smilax</i> spp.	P	3.0 - 4.0
Hedge bindweed	<i>Calystegia sepium</i>	A	1.0
Honeysuckle	<i>Lonicera</i> spp.	P	3.0 - 4.0
Kudzu <sup>+</sup>	<i>Pueraria lobata</i>	P	4.0 - 6.0
Morningglory	<i>Ipomoea</i> spp.	A/P	3.0 - 4.0
Poison ivy	<i>Rhus radicans</i>	P	3.0 - 4.0
Redvine	<i>Brunnichia cirrhosa</i>	P	3.0 - 4.0
Trumpet creeper	<i>Campsis radicans</i>	P	4.0 - 6.0
Virginia creeper	<i>Parthenocissus quinquefolia</i>	P	4.0 - 6.0
Wild buckwheat	<i>Polygonum convolvulus</i>	P	2.0 - 3.0
Wild grape	<i>Vitis</i> spp.	P	4.0 - 6.0
Wild rose	<i>Rosa</i> spp.	P	3.0 - 4.0

19/41

**BRUSH**

Common Name	Scientific Name	Life Cycle	Application Rate (Pints / Acre)
Black Locust <sup>3</sup>	<i>Robinia pseudoacacia</i>	P	4.0 - 6.0
Blackgum	<i>Nyssa sylvatica</i>	P	4.0 - 6.0
Boxelder	<i>Acer negundo</i>	P	4.0 - 6.0
Brazilian peppertree	<i>Schinus terebinthifolius</i>	P	4.0 - 6.0
Cherry	<i>Prunus</i> spp.	P	4.0 - 6.0
Chinaberry	<i>Melia azadarach</i>	P	4.0 - 6.0
Chinese tallow-tree	<i>Sapium sebiferum</i>	P	4.0 - 6.0
Dogwood	<i>Cornus</i> spp.	P	4.0 - 6.0
Elm <sup>4</sup>	<i>Ulmus</i> spp.	P	4.0 - 6.0
Hawthorn	<i>Crataegus</i> spp.	P	4.0 - 6.0
Hickory	<i>Carya</i> spp.	P	4.0 - 6.0
Honeylocust <sup>5</sup>	<i>Gleditsia triacanthos</i>	P	4.0 - 6.0
Maple	<i>Acer</i> spp.	P	4.0 - 6.0
Melaleuca	<i>Melaleuca quiquenervia</i>	P	4.0 - 6.0
Mulberry	<i>Morus</i> spp.	P	4.0 - 6.0
Oak	<i>Quercus</i> spp.	P	4.0 - 6.0
Persimmon	<i>Diospyros virginiana</i>	P	4.0 - 6.0
Pine <sup>6</sup>	<i>Pinus</i> spp.	P	4.0 - 6.0
Poplar	<i>Populus</i> spp.	P	4.0 - 6.0
Privet	<i>Ligustrum vulgare</i>	P	4.0 - 6.0
Red Alder	<i>Alnus rubra</i>	P	4.0 - 6.0
Red Maple	<i>Acer rubrum</i>	P	4.0 - 6.0
Rubber rabbitbrush	<i>Chrysothamnus nauseosus</i>	P	4.0 - 6.0
Russian Olive	<i>Eleagnus angustifolia</i>	P	4.0 - 6.0
Saltcedar	<i>Tamarix ramosissima</i>	P	4.0 - 6.0
Sassafras	<i>Sassafras albidum</i>	P	4.0 - 6.0
Sourwood	<i>Oxydendrum arboreum</i>	P	4.0 - 6.0
Sumac	<i>Rhus</i> spp.	P	4.0 - 6.0
Sweetgum	<i>Liquidambar styraciflua</i>	P	4.0 - 6.0
Water willow	<i>Justica americana</i>	P	4.0 - 6.0
Willow	<i>Salix</i> spp.	P	4.0 - 6.0
Yellow poplar	<i>Liriodendron tulipifera</i>	P	4.0 - 6.0

<sup>1</sup> For preemergence control, tank-mix with Pendulum<sup>®</sup>  
<sup>2</sup> Use a minimum of 75 GPA - Control of established stands may require repeat applications.  
<sup>3</sup> For preemergence control, tank mix with Pendulum<sup>®</sup> or Karmex<sup>®</sup>.  
<sup>4</sup> For best results, early postmergence applications are required.  
<sup>5</sup> Tank-mix with Mirage, Cinco, Escort<sup>®</sup>, Krenite<sup>®</sup>, Garlon<sup>™</sup> 3A, or Tordon<sup>™</sup> K.  
<sup>6</sup> Tank-mix with Mirage, Cinco or Escort<sup>®</sup>.  
<sup>7</sup> Tank-mix with Mirage, Cinco, Garlon<sup>™</sup> 3A, or Tordon<sup>™</sup> K.  
<sup>8</sup> Tank-mix with Mirage, Cinco<sup>®</sup>, Krenite<sup>®</sup>, Garlon<sup>™</sup> 3A, or Tordon<sup>™</sup> K.  
<sup>9</sup> The degree of control is species dependent; some Rubus species may not be completely controlled.

20/41

**FORESTRY AND NON-CROP SITES  
GENERAL INFORMATION**

NOTE: *DO NOT* make applications of this product by fixed wing aircraft except for aerial applications for brush control. Refer the BRUSH CONTROL section of this label for more information.

Refer to the WEEDS CONTROLLED section of this label for a list of species controlled by Timberland Imazapyr Pro 4 Forestry Herbicide. In addition to the species listed in the WEEDS CONTROLLED section, this product will also control the following woody brush and trees:

Common Name	Scientific Name	Common Name	Scientific Name
Alder	<i>Alnus</i> spp.	<i>Lyonia</i> spp.	
Aspen	<i>Populus</i> spp.	Including:	Fetterbush ( <i>Lyonia lucida</i> )
Australian pine <sup>3</sup>	<i>Casuarina equisetifolia</i>		Staggerbush ( <i>Lyonia mariana</i> )
Autumn olive	<i>Elaeagnus umbellata</i>	Madrone	<i>Arbutus menziesii</i>
Birch <sup>1</sup>	<i>Betula</i> spp.	Manzanita, greenleaf <sup>2</sup>	<i>Arctostaphylos patula</i>
Black oak	<i>Quercus kelloggii</i>	Poison oak	<i>Rhus diversiloba</i>
Ceanothis	<i>Ceanothis</i> spp.	Popcorn-tree	<i>Sapium sebiferum</i>
Chinquapin <sup>2</sup>	<i>Castanopsis chrysophylla</i>	Scotch broom <sup>3</sup>	<i>Cytisus scoparius</i>
Cottonwood	<i>Populus</i> spp.	Sweetbay magnolia <sup>2,3</sup>	<i>Magnolia virginiana</i>
Cypress	<i>Taxodium</i> spp.	Sycamore	<i>Platanus occidentalis</i>
Elderberry <sup>3</sup>	<i>Sambucus</i> spp.	Tanoak <sup>1,2,3</sup>	<i>Lithocarpus densiflorus</i>
Eucalyptus	<i>Eucalyptus</i> spp.	TiTi <sup>1,2</sup>	<i>Cyrilla racemiflora</i>
Hazel <sup>3</sup>	<i>Corylus cornuta</i>	Tree of heaven <sup>3</sup>	<i>Ailanthus altissima</i>
Holly <sup>1,2</sup>		<i>Vaccinium</i> spp.	
Including:	Gallberry ( <i>Ilex glabra</i> ) <sup>2,3</sup>	Including:	Blueberry ( <i>Vaccinium</i> spp.)
	Tall gallberry ( <i>Ilex coriacea</i> ) <sup>2</sup>		Sparkleberry ( <i>Vaccinium arboretum</i> )
	Yaupon ( <i>Ilex vomitoria</i> ) <sup>2</sup>	Waxmyrtle <sup>2,3</sup>	<i>Myrica californica</i>
Huckleberry	<i>Gaylussacia</i> spp.		<i>Myrica cerifera</i>

<sup>1</sup> Use the higher label rates for this species.  
<sup>2</sup> An oil emulsion carrier is recommended for this species.  
<sup>3</sup> Tank mix with Garlon™ 4 as a basal or stump treatment.

**APPLICATION NOTES FOR WET SITES**

*Except in the states of California and New York, Timberland Imazapyr Pro 4 Forestry Herbicide can be applied to the following use sites:*

With temporary surface water present:

- Areas between planting beds that have collected water
- Equipment ruts
- Depressions created by forest management activities

With no temporary surface water present:

- Drainage ditches
- Intermittent damage
- Intermittently flooded low lying areas
- Seasonally dry flood plains
- Transitional area between upland and lowland sites.
- Marshes, swamps and bogs
- Seasonally dry flood deltas

NOTE: Only the edges of drainage ditches may be treated when water is present.

### STUMP AND CUT STEM TREATMENTS

Undesirable woody vegetation may be controlled by applying Timberland Imazapyr Pro 4 Forestry Herbicide to the cambium of freshly cut stump surfaces using either a dilute solution or concentrate, or to cuts on the stems of target woody vegetation using a dilute solution. Concentrated solutions require fewer cuts on the stem while still remaining effective. For best results, stump and cut stem treatments should be done in summer and early fall and are least effective in the spring.

NOTE: Desirable woody plants may be injured or killed if they are grafted to the root system of the treated tree or they extend from the same root system as the treated tree.

#### APPLICATION WITH DILUTE SOLUTIONS

**Preparation:** Add 6 fluid ounces of **Timberland Imazapyr Pro 4 Forestry Herbicide** to one gallon of water, mixing thoroughly.

**Adjuvants:** To prevent freezing when applying in cold conditions, ethylene glycol antifreeze may be added according to the manufacturer's instructions. A surfactant or penetrating agent may be used to improve uptake of the herbicide through cambiums that have become partially callused.

**Application:** **Cut Stump Treatments** – Cut the stump surface and then brush or spray the solution onto the exposed cambium in the cuts, making sure to thoroughly wet the entire cambium areas.

**Tree Injection Treatments** - Making sure the injector completely penetrates the bark at each injection site, apply 1 milliliter of solution at each site. Use a one inch or smaller interval between injection sites completely around the trunk of the tree.

**Frill or Girdle Treatments:** Make cuts through the bark at no more than two inch intervals around the tree using a hatchet, machete, or similar device. Spray or brush the solution into each cut until thoroughly wet.

#### APPLICATION WITH CONCENTRATED SOLUTIONS

**Preparation:** Use diluted product or a mixture with up to 75% water by volume for concentrated solution application.

**Adjuvants:** To prevent freezing when applying in cold conditions, ethylene glycol antifreeze may be added according to the manufacturer's instructions. A surfactant or penetrating agent may be used to improve uptake of the herbicide through cambiums that have become partially callused.

**Applications:** **Tree Injection Treatments** – Making sure the injector completely penetrates the bark at each injection site, apply 1 milliliter of solution at each site. For best results, make one injection for every three inches of tree diameter at breast height (DBH) spacing the injections equally around the trunk.

**Frill or Girdle Treatments:** Make cuts through the bark at no more than two inch intervals around the tree using a hatchet, machete, or similar device. Spray or brush the solution into each cut until thoroughly wet.

**Hack and Squirt Treatments:** At equal intervals around the tree, make a downward-angled cut completely through the bark and cambium for every three inches of DBH using a hatchet or similar device. Then apply 1 milliliter of

solution to each cut using a squirt bottle, syringe, or similar device, making sure that the solution does not run out of the cut.

**THINLINE BASAL AND STEM APPLICATIONS and  
LOW VOLUME BASAL BARK TREATMENTS**

Applications of **Timberland Imazapyr Pro 4 Forestry Herbicide** will control susceptible species such as big leaf maple (*Acer macrophyllum*), willow (*Salix* spp.) and Eucalyptus (*Eucalyptus* spp.) with stem diameters of 4 inches or less. Application sites containing high stem densities and multiple, small (1/2 inch diameter or less) stems should be foliar treated with low volume backpack or fixed boom appliances. See BRUSH CONTROL/GROUND APPLICATIONS/Low Volume section of this label.

**THINLINE BASAL AND STEM APPLICATIONS**

Use thinline basal and stem applications for susceptible woody species with a stem ground line diameter of 3 inches or less. For larger diameter stems, use the low volume basal bark treatment below.

- Preparation: Mix 12 – 24 oz. of **Timberland Imazapyr Pro 4 Forestry Herbicide** in one gallon of diesel oil or penetrating oil, stirring frequently to maintain a uniform mixture.
- Application: 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 zigzag motion.
- Precautions: Do not over apply to the point of runoff resulting in puddling. Injury may occur to desirable conifers or other plant species if applications are made directly to those plants.

**LOW VOLUME BASAL BARK TREATMENTS**

Use low volume basal bark treatments on stems up to 4 inches in diameter at breast height (DBH). **Timberland Imazapyr Pro 4 Forestry Herbicide** may be tank mixed with Garlon™ 4 or other basal products to broaden the spectrum of control. To prevent stump resprouting with small (1/2 inch diameter) stems, avoid application on sites that have been mowed prior to application.

- Preparation: Mix 4 – 6 oz. of **Timberland Imazapyr Pro 4 Forestry Herbicide** in one gallon of diesel oil or penetrating oil, stirring frequently to maintain a uniform mixture.
- Tank Mixes: To control black locust, honey locust, hackberry, elms and other species listed on manufacturer's labels, use 1.5 - 2.5% LPI Imazapyr Pro VM & Aquatic Herbicide mixed with 15 to 20% Garlon™ 4. A tank mix of 1.5% LPI Imazapyr Pro VM & Aquatic Herbicide and Garlon™ 4 is effective in the Northeastern U.S. Use the higher rate (2.5%) of LPI Imazapyr Pro VM & Aquatic Herbicide in areas containing sassafras, oak, hickory, cherry, and maples or in the southern portion of the U.S.
- Application: Spray the lower 12 – 18 inches of the stem with the mixture (including the root-collar area) until wet.
- Precautions: DO NOT over apply to the point of dripping or puddling. Injury may occur to desirable conifers or other plant species if applications are made directly to those plants.

**SITE PREPARATION TREATMENTS, HERBACEOUS WEED CONTROL  
and CONIFER RELEASE TREATMENTS**

**Timberland Imazapyr Pro 4 Forestry Herbicide** may be used to prepare sites for the conifer crop species listed in the table below:

Common Name	Scientific Name	Rate (oz./A)
Loblolly Pine	<i>Pinus taeda</i>	24-40
Loblolly X Pitch Hybrid		
Longleaf Pine	<i>Pinus palustris</i>	
Shortleaf Pine	<i>Pinus echinata</i>	
Virginia Pine	<i>Pinus virginiana</i>	
Slash Pine	<i>Pinus elliottii</i>	20-32
Douglas Fir	<i>Pseudotsuga menziesii</i>	12-24
Western Hemlock	<i>Tsuga heterophylla</i>	
Coastal Redwood	<i>Sequoia sempervirens</i>	
California Red Fir	<i>Abies magnifica</i>	12-20
California White Fir	<i>Abies concolor</i>	
Jack Pine	<i>Pinus banksiana</i>	12-16
Lodgepole Pine	<i>Pinus contorta</i>	
Pitch Pine	<i>Pinus rigida</i>	
Ponderosa Pine	<i>Pinus ponderosa</i>	
Sugar Pine	<i>Pinus lambertiana</i>	
White Pine	<i>Pinus strobus</i>	
Black Spruce	<i>Picea mariana</i>	
Red Spruce	<i>Picea rubens</i>	
White Spruce	<i>Picea glauca</i>	

For long-term control of labeled woody plants and residual control of herbaceous weeds, apply **Timberland Imazapyr Pro 4 Forestry Herbicide** as a broadcast spray at the rate listed in the above table. Grasses and other herbaceous weeds will be controlled within 4 to 6 weeks and may be used as fuel for a site-preparation burn to control conifers or other resistant species resistant to this herbicide. Apply 24 oz. or less per acre of **Timberland Imazapyr Pro 4 Forestry Herbicide** will suppress hardwood brush and trees for site preparation but some resprouting may occur.

For tracts to be planted with loblolly x pitch hybrid, longleaf pine, shortleaf pine, Virginia pine and slash pine, **Timberland Imazapyr Pro 4 Forestry Herbicide** may be applied to areas that have little or no resprouting vegetation due to recent management activities such as harvesting, mechanical shearing, burning, piling, or bedding. Make applications at a rate of 32 oz. per acre after September 1.

For site preparation prior to planting hardwood species in the southeast and gulf coast states (Virginia to Texas), apply 24 oz. of **Timberland Imazapyr Pro 4 Forestry Herbicide** per acre before the end of July. For this use, application in an emulsion carrier with a minimum of 12% oil is recommended. DO NOT plant hardwood seedlings before January of the year following application or injury may occur.

24/41

Preparation: Add the amount of **Timberland Imazapyr Pro 4 Forestry Herbicide** recommended for the intended use (see the table above) to 5 – 30 gallons of water per acre for helicopter applications or 5 – 100 gallons per acre for mechanical ground spray or backpack applications, mixing thoroughly. For control of dense or multi-layered canopies of hardwood stands or when difficult to control species are present, use the higher label rates and spray volumes listed.

Adjuvants: A minimum of ½ percent by volume nonionic surfactant should be used.

Tank Mixes: For control of conifers and other species resistant to **Timberland Imazapyr Pro 4 Forestry Herbicide**, tank mixes with other herbicides may be necessary. Always follow the most restrictive product label when mixing products. When rapid brown out of foliage is desired for burning, mix 16 – 32 oz. of **Timberland Imazapyr Pro 4 Forestry Herbicide** with 16 – 64 oz. of glyphosate or 16 – 48 oz. of triclopyr per acre.

To control seedling pines, mix 16 – 32 oz. of **Timberland Imazapyr Pro 4 Forestry Herbicide** with 3 – 4 quarts of glyphosate per acre.

Application: Applications should not be made under wind or gusty conditions and all possible precautions should be taken in order to minimize or eliminate spray drift. Using a controlled droplet boom and nozzle configuration is recommended to assist in mitigating spray drift.

Be sure to maintain adequate buffer zone.

Precautions: Combinations with other products labeled for forest site preparation may kill certain plants such as legumes and blackberry that are desirable for wildlife habitat.

Seedlings of northern or western conifer species (other than Douglas-Fir) must NOT be planted on sites that have been prepared with **Timberland Imazapyr Pro 4 Forestry Herbicide** for three months following treatment or injury may occur. Douglas-Fir seedlings may be planted two months after site preparation treatment with **Timberland Imazapyr Pro 4 Forestry Herbicide**.

### HERBACEOUS WEED CONTROL

**Timberland Imazapyr Pro 4 Forestry Herbicide** may be applied as a broadcast treatment, banded over tree rows, or as a directed spray for control of herbaceous weeds in the following conifers:

Crop Species	Scientific Name	Rate (oz./A)
Loblolly Pine	<i>Pinus taeda</i>	6-10
Loblolly X Pitch Hybrid		
Virginia Pine <sup>1</sup>	<i>Pinus virginiana</i>	
Longleaf Pine <sup>1</sup>	<i>Pinus palustris</i>	4-6
Slash Pine	<i>Pinus elliottii</i>	
Douglas Fir <sup>1</sup>	<i>Pseudotsuga menziesii</i>	
<sup>1</sup> Use of a surfactant is not recommended.		

Use the higher label rates and spray volumes listed above for control of dense or multi-layered canopies of hardwood stands or when difficult to control species are present.

Preparation: Add the amount of **Timberland Imazapyr Pro 4 Forestry Herbicide** recommended for the intended use (see the table above) to 5 – 30 gallons of water per acre for helicopter applications or 5 – 100 gallons per acre for mechanical ground spray applications, mixing thoroughly.

met/02  
Jh...  
dant



For applications made with a backpack or hand-help sprayer, mix 0.4 – 0.6 oz. of **Timberland Imazapyr Pro 4 Forestry Herbicide** and 0.2 oz. nonionic surfactant per gallon of water.

**Adjuvants:** To improve weed control in cases where herbaceous weeds have overtopped conifer seedlings, a ¼ percent of spray solution volume of nonionic surfactant may be added (except for slash pine, long-leaf pine, and Douglas-Fir).

**Tank Mixes:** **Timberland Imazapyr Pro 4 Forestry Herbicide** may be tank mixed with Oust® to broaden the spectrum of weeds controlled. For loblolly pine, apply 4 to 6 oz. **Timberland Imazapyr Pro 4 Forestry Herbicide** plus 1 – 2 oz. Oust® (product) per acre. NOTE: Growth suppression may result if **Timberland Imazapyr Pro 4 Forestry Herbicide** is applied with Oust® on conifer species other than loblolly pine.

**Application:** Broadcast applications may be made by helicopter, ground, or backpack sprayer. For best results, applications should be made to newly emerged weeds. **Timberland Imazapyr Pro 4 Forestry Herbicide** may also be applied using backpack or hand-held sprayers to control herbaceous weeds around individual conifer seedlings by directly spraying the weeds while attempting to minimize or eliminate spray drift. Using a controlled droplet boom and nozzle configuration is recommended to assist in mitigating spray drift. Be sure to maintain adequate buffer zones.

**Precautions:** Do not apply **Timberland Imazapyr Pro 4 Forestry Herbicide** when conifers are under stress or injury may result. Conifers may experience minor growth inhibition when treatments are made during periods of active growth.

### CONIFER RELEASE TREATMENTS

Timberland Imazapyr Pro 4 Forestry Herbicide may be applied as a broadcast or directed spray treatment to suppress labeled brush, tree, and herbaceous weed species using the rates listed in the table below.

Crop Species	Scientific Name	Rate (oz./A)
Loblolly Pine <sup>3</sup>	<i>Pinus taeda</i>	12-20
Loblolly X Pitch Hybrid <sup>3</sup>		
Virginia Pine <sup>3</sup>	<i>Pinus virginiana</i>	
Longleaf Pine	<i>Pinus palustris</i>	12-16
Pitch Pine	<i>Pinus rigida</i>	
Shortleaf Pine	<i>Pinus echinata</i>	
Slash Pine	<i>Pinus elliotii</i>	
White Pine <sup>1</sup>	<i>Pinus strobus</i>	8-16
California Red Fir	<i>Abies magnifica</i>	8-12
California White Fir	<i>Abies concolor</i>	
Lodgepole Pine <sup>2</sup>	<i>Pinus contorta</i>	
Douglas Fir <sup>2</sup>	<i>Pseudotsuga menziesii</i>	
Jack Pine <sup>2</sup>	<i>Pinus banksiana</i>	6-12
Black Spruce <sup>2</sup>	<i>Picea mariana</i>	
Red Spruce <sup>2</sup>	<i>Picea rubens</i>	
White Spruce <sup>2</sup>	<i>Picea glauca</i>	

<sup>1</sup> In order to minimize injury, DO NOT make applications to white pine stands younger than three years old or to any age trees prior to July 15.

<sup>2</sup> In order to minimize growth inhibition, applications should be made in the fall after final conifer resting buds have formed.

<sup>3</sup> When making broadcast applications for mid-rotation release below the pine canopy in established stands of loblolly pine, loblolly X pitch hybrid, and Virginia pine, use 16-32 oz. product per acre. For mid-rotation release of other species, use the rates listed above.

Use the higher label rates and spray volumes listed above for control of dense multi-layered canopies of hardwood stands or when difficult to control species are present. Rates below 16 oz. per acre are intended for hardwood growth suppression and some hardwood resprouting should be expected.

Preparation: Add the amount of **Timberland Imazapyr Pro 4 Forestry Herbicide** recommended for the intended use (see the table above) to 5 – 30 gallons of water per acre for helicopter applications or 5 – 100 gallons per acre for mechanical ground spray applications, mixing thoroughly.

For cut stubble treatments, add 0.5 – 1.0 pints of **Timberland Imazapyr Pro 4 Forestry Herbicide** to 50 gallons of water per acre for mechanical ground spray applications, mixing thoroughly.

For applications made with a backpack or hand-held sprayer, mix 0.4 – 0.6 oz. of **Timberland Imazapyr Pro 4 Forestry Herbicide** and 0.2 oz. nonionic surfactant per gallon of water.

NOTE: For low volume directed applications on big leaf maple, a 2.5% by volume spray solution is recommended.

Adjuvants: To improve weed control a ¼ percent by volume spray solution of nonionic surfactant may be added.

When making cut stubble treatments, 2.5 gallons per acre 5% v/v of basal oil or similar penetrating agent should be added to the mix, to facilitate uptake through the bark or exposed roots of undesired vegetation.

**Tank Mixes:** **Timberland Imazapyr Pro 4 Forestry Herbicide** may be tank-mixed with products labeled for use in brush control or suppression, such as 1 to 2 quarts of Garlon™ 4 or Tordon™ K. the tank mixes should include at least 5% v/v penetrating agent to assist the herbicide uptake through the bark or exposed roots. When tank mixing, follow all precautions on the tank mix product label and always follow the most restrictive label.

**Application:** Broadcast applications may be made by helicopter, or ground sprayer. For best results, applications should be made to newly emerged weeds. For cut stubble applications, apply **Timberland Imazapyr Pro 4 Forestry Herbicide** to the soil and cut brush stumps within two weeks of mowing, with best results obtained after some brush regrowth has occurred. **Timberland Imazapyr Pro 4 Forestry Herbicide** may also be applied using backpack or hand-held sprayers to control herbaceous weeds around individual conifer seedlings by directly spraying the weeds while attempting to minimize the amount applied to conifer foliage.

Applications should not be made under windy or gusty conditions and all possible precautions should be taken in order to minimize or eliminate spray drift. Using a controlled droplet boom and nozzle configuration is recommended to assist in mitigating spray drift.

Be sure to maintain adequate buffer zones.

**Precautions:** Ensure that maximum labeled rates per acre listed for crop species below are not exceeded.

Avoid direct application to conifers when the trees are young or stressed by using a directed spray application.

When making broadcast application to slash pine and longleaf pine to control woody plants, applications must be made to stands 2 to 5 years old and after August 15<sup>th</sup> ONLY.

When applying to slash pine and longleaf pine growing in sandy soils, use the lower labeled rates and do not use a surfactant.

Except in loblolly pine, treatments made during periods of active conifer growth may cause minor growth inhibition. This may be minimized by making broadcast applications only after the end of the second growing season.

Applications of **Timberland Imazapyr Pro 4 Forestry Herbicide** made directly to the soil may increase the potential root uptake resulting in desirable trees being injured or dying.

Cut stubble treatments may increase ground cover injury but the vegetation will recover.

#### **Special Instructions for Loblolly Pine Seedlings:**

**Timberland Imazapyr Pro 4 Forestry Herbicide** may be applied to loblolly pine seedlings in the first growing season after planting or to one-year old natural loblolly pine regeneration. For seedling release, apply 12 – 20 oz. per acre of **Timberland Imazapyr Pro 4 Forestry Herbicide** AFTER July 15<sup>th</sup>.

**Spot Treatment of Undesirable Hardwood Vegetation:**

For the conifer species listed above, directed foliar or cut stem applications of **Timberland Imazapyr Pro 4 Forestry Herbicide** may be made to control unwanted brush and hardwoods in stands of all ages. Refer to the Directed Foliar or Cut Stem Treatment section of this label for application instructions and use precautions. 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.

**Late Rotation Vegetation Control in Western Conifers:**

In the Pacific Northwest, Inland Northwest and California, broadcast aerial applications of **Timberland Imazapyr Pro 4 Forestry Herbicide** may be made to conifers that will be harvested the year following treatment. Apply up to 24 oz. in a minimum spray volume of 15 gallons per acre. DO NOT use this treatment if conifer injury or mortality cannot be tolerated as significant injury or mortality will result.

**Bag and Spray Applications for Conifer Release:**

Broadcast applications of **Timberland Imazapyr Pro 4 Forestry Herbicide** (up to 16 ounces per acre) may be made to Douglas-Fir and Ponderosa Pine stands when the trees are covered by bags prior to application in order to prevent the spray from contracting the conifer foliage. NOTE: on sites with coarse textured soils (such as decomposed granite, pumice, and sandy or rocky sites) or where low levels of soil organic matter are present (generally 5% or less), significant conifer growth inhibition and/or mortality may result. DO NOT use this treatment on these types of sites if conifer injury or mortality cannot be tolerated.

**BRUSH CONTROL**

When mixed with water and a surfactant, **Timberland Imazapyr Pro 4 Forestry Herbicide** may be applied as a spray solution for brush control in the following sites:

- Utility plant sites
- Pumping stations
- Storage areas
- Railroad, utility, pipeline and highway rights-of-way
- Petroleum tank farms
- Fence rows
- Non-irrigation ditchbanks

**Timberland Imazapyr Pro 4 Forestry Herbicide** may be applied to non-grazed areas within these sites, and may also be used to control brush in wildlife openings.

**AERIAL APPLICATIONS:**

**NOTE: Aerial applications for brush control may be made by fixed wing aircraft. Be sure to read and follow the precautions below when using fixed wing aircraft.**

**Preparation:** Add the amount of **Timberland Imazapyr Pro 4 Forestry Herbicide** recommended in this label for the intended use to 5 – 30 gallons of water per acre, mixing thoroughly.

**Adjuvants:** To increase efficacy, a compatible nonionic surfactant or methylated seed oil should be added to the spray solution. See the Adjuvant section above for specific recommendations.

Except when applying with Microfoil™ boom, Thru-Valve™ boom or other similar equipment, a drift control agent may be added.

29/41

**Application:** Applications should not be made under windy or gusty conditions and all possible precautions should be taken in order to minimize or eliminate spray drift, refer to the Spray Drift section at the beginning of this label for more information. A calibrated controlled droplet boom and nozzle configuration is recommended to assist in mitigating spray drift.

Be sure to maintain adequate buffer zones.

**Precautions:** DO NOT make applications by fixed wing aircraft unless appropriate buffer zones can be maintained to prevent spray drift out of the target area or, when treating open tracts of land, spray drift as a result of fixed wing aircraft application can be tolerated.

Because uncoated steel (except stainless steel) surfaces that experience prolonged exposure to this product may corrode and eventually fail, thoroughly clean application and mixing equipment as well as portions of the aircraft that may have been exposed to the spray (including landing gear) immediately after use by flushing with water.

Side trimming is not recommended with **Timberland Imazapyr Pro 4 Forestry Herbicide** unless death of treated tree can be tolerated.

**GROUND APPLICATIONS:**

See the instructions under **Ground Operated Spray Equipment in the Mixing and General Application Instructions section at the beginning of this label.**

**Specific Instructions for Ground Applications:**

**Preparation:** Use 0.5 – 1.0 pints of **Timberland Imazapyr Pro 4 Forestry Herbicide** in recommended tank mixtures when the roots of desirable trees may extend into rights-of-way corridors. Desirable trees may be damaged or die when their roots extend into treated zones and more than 1.5 pints per acre is applied.

**Tank Mixes:** To control black locust, honey locust, hackberry, elms and other species listed on manufacturer's labels, use a tank mix of 1.5 – 2.5 % **Timberland Imazapyr Pro 4 Forestry Herbicide** with 15 – 20% **Garlon™ 4** in basal oil. Use the higher rate of **Timberland Imazapyr Pro 4 Forestry Herbicide** in areas containing sassafras, oak, hickory, cherry, and maples or in the southern 2/3's of the U.S. The lower rates listed will be effective in the Northern U.S.

<b>SPRAY SOLUTION MIXING GUIDE FOR LOW VOLUME FOLIAR APPLICATIONS</b>				
<b>SPRAY SOLUTION VOLUME</b>	<b>DESIRED CONCENTRATION (fluid volume)</b>			
	<b>Imazapyr Forestry Pro Herbicide</b>		<b>Garlon™ 4</b>	
	<b>1.5%</b>	<b>2.5%</b>	<b>15%</b>	<b>20%</b>
1 gallon	1.9 oz.	3.2 oz.	19.2 oz.	25.6 oz.
3 gallons	5.7 oz.	9.6 oz.	57.6 oz.	76.8 oz.
4 gallons	7.7 oz.	12.8 oz.	76.8 oz.	102.4 oz.
5 gallons	9.6 oz.	16.0 oz.	96.0 oz.	1.0 gallon
50 gallons	0.75 gallons	1.25 gallons	7.5 gallons	10.0 gallons
100 gallons	1.5 gallons	2.5 gallons	15.0 gallons	20.0 gallons

**Precautions:** DO NOT side trim with **Timberland Imazapyr Pro 4 Forestry Herbicide** unless severe injury or death of the treated tree can be tolerated. **Timberland Imazapyr Pro 4 Forestry Herbicide** is readily translocated and can result in death of the entire tree.

**Specific Instructions for Low Volume Applications:**

See the instructions under **Directed Foliar or Spot Spray Equipment in the Mixing and General Application Instructions section at the beginning of this label.**

- Preparation:** To prepare the spray solution, thoroughly mix in water 0.25% to 2.5% **Timberland Imazapyr Pro 4 Forestry Herbicide** plus surfactant (see the ADJUVANT section above for specific recommendations).  
For difficult to control brush species, use the higher concentrations of herbicide and/or spray volumes. Consult the WEEDS CONTROLLED section above for specific recommendations.  
For improved control, **Timberland Imazapyr Pro 4 Forestry Herbicide** may be tank mixed with other products, consult the Suggested Tank Mixes and Application Rates table below.
- Adjuvants:** If necessary, a foam reducing agent may also be added.
- Application:** Use equipment calibrated to deliver 5 to 20 gallons of spray solution per acre.  
When applying to brush up to 4 feet tall, spray down on the crown covering the crown and penetrating approximately 70% of the plant.  
When applying to brush 4 – 8 feet tall, apply to at least two sides of the plant by spraying the plant in smooth vertical motions from the crown to the bottom. For best results, be sure to cover the crown of the plant.  
When applying to brush over 8 feet tall, spray at least two sides of the brush using a smooth zigzag pattern from crown to bottom.  
When making a broadcast application, spray the crown in a manner that simulates a gentle rain, allowing the spray to penetrate the target foliage but without falling to the understory. Severe injury or death of plants in the understory may result from contact with the spray solution.
- Precautions:** DO NOT side trim with **Timberland Imazapyr Pro 4 Forestry Herbicide** unless severe injury or death of the treated tree can be tolerated. **Timberland Imazapyr Pro 4 Forestry Herbicide** is readily translocated and can result in death of the entire tree.  
DO NOT apply more than 3 pints of **Timberland Imazapyr Pro 4 Forestry Herbicide** per acre.  
Excessive wetting of foliage is not recommended.

**SUGGESTED TANK MIXES AND APPLICATION RATES**

Target Vegetation	Rate of <b>Timberland Imazapyr Pro 4 Forestry Herbicide</b>	Tank Mix
Mixed hardwoods without elm, locust, or pine	0.5 – 0.75% by volume	Surfactant
Mixed hardwoods containing elm, locust and pine	0.25 – 0.5% by volume	Cinco at 2 – 3 % by volume plus surfactant
Mixed hardwoods with locust and pine but no elm	0.25 – 0.5% by volume	Krenite® at 2 – 5% by volume plus surfactant
Mixed hardwoods with locust and elm but no pine	0.25 – 0.5% by volume	Escort® at 2 oz. /Acre or 2.3 grams/gal. plus surfactant

NOTE: **Timberland Imazapyr Pro 4 Forestry Herbicide** has been found to be LESS effective in tank mixes with 2,4-D or products containing 2,4-D.

**Specific Instructions for High Volume Applications:**

See the instructions under **Ground Operated Spray Equipment in the Mixing and General Application Instructions** section at the beginning of this label.

**Preparation:** Mix 1 – 3 pints of **Timberland Imazapyr Pro 4 Forestry Herbicide** per acre in water and add a surfactant (see ADJUVANT section of this label for specific recommendations and rates of surfactants).

For difficult to control brush species, use the higher concentrations of herbicide and/or spray volumes. Consult the WEEDS CONTROLLED section above for specific recommendations.

**Adjuvants:** If necessary, a foam reducing agent may also be added.

**Tank Mixes:** To provide control of species tolerant to **Timberland Imazapyr Pro 4 Forestry Herbicide**, tank mixes with Cinco, Mirage, Makaze, Krenite®, Escort®, Telar®, Tordon™ K, Garlon™ 3A, Rifle Herbicide and Vanquish® may be used

NOTE: **Timberland Imazapyr Pro 4 Forestry Herbicide** has been found to be LESS effective in tank mixes with 2,4-D or products containing 2,4-D.

**Application:** For best results on medium to high density brush, use equipment calibrated to deliver up to 100 gallons of spray solution per acre (GPA).

Spray the foliage of the vegetation to be controlled in a uniform manner being sure NOT to apply to the point of run-off.

**Precautions:** DO NOT side trim with **Timberland Imazapyr Pro 4 Forestry Herbicide** unless severe injury or death of the treated tree can be tolerated. **Timberland Imazapyr Pro 4 Forestry Herbicide** is readily translocated and can result in death of the entire tree.

DO NOT apply more than 3 pints of **Timberland Imazapyr Pro 4 Forestry Herbicide** per acre.

Excessive wetting of foliage is not recommended.

**INVERT EMULSIONS:**

In order to minimize spray drift and run-off, **Timberland Imazapyr Pro 4 Forestry Herbicide** may be applied as an invert emulsion carrier when making applications to brush. The spray

emulsion may be batch-mixed in a single tank or injected (in-line mixing). For mixing directions, refer to the invert chemical label.

### CONTROL OF WEEDS UNDER PAVED SURFACES

In industrial sites or where pavement has a barrier along the perimeter that prevents roots of desirable plants from encroaching into application areas, **Timberland Imazapyr Pro 4 Forestry Herbicide** may be used under asphalt, pond liners and other paved areas to control weeds. This product is NOT recommended for use under paved areas such as driveways or parking lots on residential properties, nor in recreational areas such as under bike or jogging paths, golf cart paths, tennis courts, or anywhere landscape plantings might occur in the future. Desirable plants may be insured or killed if this product is applied where their roots are present, and the roots of trees and shrubs may extend beyond the drip line of the plant (the outer edges of the branch extremities).

**Preparation:** Mix a tank using a rate of 3 pints (1.1 fl. oz. per 1,000 sq. ft.) of **Timberland Imazapyr Pro 4 Forestry Herbicide** to at least 100 gallons of water per acre. Create sufficient spray solution to ensure complete and uniform coverage of the entire area to be paved, including shoulder areas.

**Application:** Use equipment calibrated to deliver at least 100 gallons of spray solution per acre (GPA).

**Timberland Imazapyr Pro 4 Forestry Herbicide** may need to be incorporated into the soil if the soil is not moist prior to application in order to activate the herbicide. Incorporation may be accomplished by using a rototiller or disc to a depth of 4 – 6 inches, or 1 inch of irrigation may be used. *If irrigating, do not allow treated soil to wash or move into untreated areas.*

**Precautions:** **Timberland Imazapyr Pro 4 Forestry Herbicide** application sites should be paved over as soon as possible after application. DO NOT apply where the chemical may contact the roots of desirable trees or other plants. DO NOT apply more than 3 pints of **Timberland Imazapyr Pro 4 Forestry Herbicide** per acre. All tubers, rhizomes, stolons and other vegetative plant parts that are present in the site should be scalped to a depth that assures their removal using a grader blade or similar technique. Applications should be made to the soil surface only when final grade is established. Do not move soil following **Timberland Imazapyr Pro 4 Forestry Herbicide** application.

### CONTROL OF UNDESIRABLE WEEDS IN UNIMPROVED BERMUDAGRASS AND BAHIAGRASS

**Timberland Imazapyr Pro 4 Forestry Herbicide** may be used in non-cropland industrial sites, roadsides and utility rights-of-way to release unimproved bahiagrass and bermudagrass from competition with broadleaf weeds and grasses listed in the WEEDS CONTROLLED section above. **Timberland Imazapyr Pro 4 Forestry Herbicide** applications to bermudagrass will cause seedhead inhibition and a compacted growth habit.



## WEEDS CONTROLLED

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

**Preparation:** Bermudagrass – Mix 3 – 6 oz. of **Timberland Imazapyr Pro 4 Forestry Herbicide** per acre when grass is dormant, or 3 – 4 oz. per acre once the grass has reached full green-up. A surfactant should be used in the spray solution, but should NOT be used at a rate higher than 1 oz./25 gallons of spray solution. Bahiagrass – Mix 2 – 4 oz. of **Timberland Imazapyr Pro 4 Forestry Herbicide** per acre when grass is dormant or after the grass has initiated green-up but has not exceeded 25% green-up. A surfactant should be used in the spray solution (refer to the ADJUVANT section of this label for specific recommendations on surfactants).

**Tank Mixes:** Pendulum® herbicide may be added at the rate of 3.3 – 6.6 lbs. per acre for additional preemergence control of annual grasses and small seeded broadleaf weeds. Refer to the Pendulum® herbicide label for weeds controlled and other use directions and precautions.

To control johnsongrass in bermudagrass turf, use 4 oz. of **Timberland Imazapyr Pro 4 Forestry Herbicide** with 12 oz. of Mirage per acre and a surfactant.

For additional control of broadleaves and vines, 1 – 2 pints of Garlon™ 3A per acre may be added to the **Timberland Imazapyr Pro 4 Forestry Herbicide**/Mirage mix described above.

Be sure to follow the most restrictive instructions from all labels used in tank mixes.

**NOTE:** **Timberland Imazapyr Pro 4 Forestry Herbicide** has been found to be less effective in tank mixes with 2,4-D or products containing 2,4-D.

**Application:** Uniformly apply with properly calibrated ground equipment using at least 10 gallons of water per acre with a spray pressure of 20 to 50 psi.

**Precautions:** 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.

Applications made during green-up will delay green-up.

Temporary yellowing of grass may occur when treatment is made after regrowth commences.

**GRASS GROWTH AND SEEDHEAD SUPPRESSION**

In unimproved areas, **Timberland Imazapyr Pro 4 Forestry Herbicide** may be used to suppress seedhead development and growth of certain types of turfgrass.

**Preparation:** Bermudagrass – Mix 3 – 4 oz. of **Timberland Imazapyr Pro 4 Forestry Herbicide** with at least 10 gallons of water per acre. DO NOT add surfactant to this mix.

Cool-season Unimproved Turf – Mix 1 oz. of **Timberland Imazapyr Pro 4 Forestry Herbicide** per acre with 0.25% non-ionic surfactant (refer to the ADJUVANT section of this label for specific recommendations on surfactants).

**Adjuvants:** Always use a spray adjuvant when making a post emergence application. Refer to the ADJUVANT section of this label for specific recommendations.

**Tank Mixes:** To provide control of species tolerant to **Timberland Imazapyr Pro 4 Forestry Herbicide**, tank mixes with Mirage, Finale®, MSMA, Diuron, Karmex®, Pendulum®, Simazine, Rifle, Vanquish®, or Oust® herbicides may be used. The degree and duration of control are dependent on the rate of **Timberland Imazapyr Pro 4 Forestry Herbicide** used, the tank mix partner(s), the volume of carrier used, and environmental factors such as rainfall, soil properties, etc.

**Tank Mix Recommendations for Bareground Sties**

<b>Timberland Imazapyr Pro 4 Forestry Herbicide (pints / acre)</b>	<b>Pendulum® WDG (lbs. / acre)</b>	<b>Pendulum® 3.3 EC (quarts / acre)</b>	<b>Diuron (lbs. a.i. / acre)</b>
0.75-1.5	6.6	4.8	4-6
1-2	6.6	4.8	6-10
1.5-3	6.6	4.8	8-12

Use higher rates for fall applications, in areas that have not been previously treated, or that have heavy infestations.

For quicker burndown or brown-out of targeted weeds, **Timberland Imazapyr Pro 4 Forestry Herbicide** may be tank mixed with products such as Mirage, Finale®, or MSMA.

NOTE: Imazapyr Forestry Pro Herbicide has been found to be less effective in tank mixes with 2,4-D or products containing 2,4-D.

**Application:** Refer to the MIXING AND APPLCIATION INSTRUCTIONS in the GENERAL INFORMATION section at the beginning of this label for directions pertaining to your desired method of application.

Applications of Imazapyr Forestry Pro Herbicide may be made anytime of the year.

**Precautions:** DO NOT apply more than 3 pints of **Timberland Imazapyr Pro 4 Forestry Herbicide** per acre.

**Spot Treatments:** **Timberland Imazapyr Pro 4 Forestry Herbicide** may be used as a follow-up treatment to control escapes or weed encroachment in a bareground situation.

**Preparation:** Mix 0.25 – 2.5% **Timberland Imazapyr Pro 4 Forestry Herbicide** per gallon of water as per the instructions in the MIXING AND APPLICATION INSTRUCTIONS at the beginning of this label.

For difficult to control brush species, use the higher concentrations of herbicide and/or spray volumes. Consult the WEEDS CONTROLLED section for specific recommendations.

**Adjuvants:** Always use a spray adjuvant when making a postemergence application. Refer to the ADJUVANT section of this label for specific recommendations.

- Tank Mixes:** To improve residual weed control and expand the number of weeds controlled, tank mixes with Pendulum® or Diruon herbicides may be used. For quicker burndown or brown-out of targeted weeds, **Timberland Imazapyr Pro 4 Forestry Herbicide** may be tank mixed with products such as Mirage, Finale®, or MSMA.  
NOTE: **Timberland Imazapyr Pro 4 Forestry Herbicide** has been found to be less effective in tank mixes with 2,4-D or products containing 2,4-D.
- Application:** Refer to the MIXING AND APPLICATION INSTRUCTIONS in the GENERAL INFORMATION section at the beginning of this label for directions pertaining to your desired method of application.  
Applications of **Timberland Imazapyr Pro 4 Forestry Herbicide** may be made anytime of the year.
- Precautions:** DO NOT apply more than 3 pints of **Timberland Imazapyr Pro 4 Forestry Herbicide** per acre.

### AQUATIC APPLICATIONS

Aquatic applications may be made in and around standing and flowing water for control of floating and emergent aquatic vegetation or terrestrial vegetation growing in or around surface water. The types of water bodies that may be treated are:

- Marine water bodies
- Wetlands
- Marshes/bayous/wetlands
- Streams/rivers
- Estuaries
- Ponds/lakes/reservoirs
- Drainage ditches/canals
- Other slow-moving or still water bodies

In cases where there is minimal or no outflow to public water bodies, **Timberland Imazapyr Pro 4 Forestry Herbicide** can be applied to private water that are still, such as ponds, lakes and drainage ditches.

**Timberland Imazapyr Pro 4 Forestry Herbicide does not control plants that are completely submerged or have a majority of their foliage under water.**

### AQUATIC USE PRECAUTIONS AND RESTRICTIONS

Applications may only be made by licensed or certified applicators making applications for programs sponsored by Federal or State government agencies such as Water Management Districts, Municipal Authorities or the U.S. Army Corps of Engineers.

Permits may be required to treat public water bodies; consult your local state fish and game agency and water control authorities before making applications of **Timberland Imazapyr Pro 4 Forestry Herbicide** to public water.

Only invasive plants or plants determined to be a nuisance by a Federal or State government agency may be treated. DO NOT apply to water bodies or portions of water bodies where emergent and/or floating weeds do not exist.

DO NOT apply more than 3 pints of product (1.5 lbs. acid equivalent) per acre per year.

Aerial application may be made only by helicopter.

### Precautions for Potable Water Intakes:

**Timberland Imazapyr Pro 4 Forestry Herbicide** may NOT be applied directly to water within one-half mile upstream of an active potable water intake in flowing water bodies such as rivers or streams.

**Timberland Imazapyr Pro 4 Forestry Herbicide** may NOT be applied within on-half mile of an active potable water intake in a standing water body such as a reservoir, lake or pond. If aquatic applications within one-half mile of active potable water intakes need to be made, the water intake must be turned off during application and for a minimum of 48 hours after the application. This type of application may only be made if there are alternative water sources or holding ponds that permit an active potable water intake to be turned off for a minimum of 48 hours after the applications.

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

**Precautions for Irrigation Water:**

*Any water treated with **Timberland Imazapyr Pro 4 Forestry Herbicide** may not be used for irrigation purposes for 120 days after application or until residue levels are determined by laboratory analysis to be 1.0 ppb or less.*

Apply **Timberland Imazapyr Pro 4 Forestry Herbicide** to irrigation canals or ditches only if the above restriction can be observed.

DO NOT apply **Timberland Imazapyr Pro 4 Forestry Herbicide** within one mile of an active irrigation water intake in lakes or reservoirs during the irrigation season. Applications closer than one mile from an inactive irrigation water intake may be made during the off-season, provided that the above restriction can be observed.

DO NOT apply **Timberland Imazapyr Pro 4 Forestry Herbicide** within one-half mile downstream of an active irrigation water intake. If making applications upstream of an active irrigation water intake, the intake must be turned off until the treated water upstream has flowed completely past the irrigation intake. Before applying **Timberland Imazapyr Pro 4 Forestry Herbicide** upstream of an active irrigation water intake, consult your local, state and/or federal authorities.

**INSTRUCTIONS FOR AQUATIC APPLICATIONS**

**Timberland Imazapyr Pro 4 Forestry Herbicide** has little or no effect on submerged aquatic vegetation and must be applied to the emergent foliage of the target vegetation. In general, applications should be made in a manner that maximizes spray interception by the target vegetation and minimizes overspray into the water. **Timberland Imazapyr Pro 4 Forestry Herbicide** may be applied as a draw down treatment into areas described above by applying to weeds after water has been drained and then allowing 14 days before reintroducing water to the drained area.

- For best results, weeds should be growing vigorously at the time of application and the spray solution should include a surfactant (see the ADJUVANTS section of this label for specific recommendations).
- Aquatic applications of **Timberland Imazapyr Pro 4 Forestry Herbicide** should be made in a minimum of 5 gallons of water per acre using surface or helicopter application equipment.
- To prevent concentration of this herbicide in water, applications to moving bodies of water should be made while traveling upstream.
- 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.

- To allow fish to move into untreated areas, begin applications along the shore and proceed outwards in bands.
- Because oxygen depletion due to decaying vegetation may result in the suffocation of some sensitive fish species, when the target vegetation covers a large percentage of the surface area of a slow or non-flowing water body, the area should be treated in strips.
- For one hour after application, avoid wash-off of sprayed foliage by spray boat or recreational boat backwash.

#### **AQUATIC AERIAL APPLICATIONS**

Refer to the MIXING AND APPLICATION INSTRUCTIONS section for general information regarding aerial applications of **Timberland Imazapyr Pro 4 Forestry Herbicide**.

Refer to the PRECAUTION FOR AVOIDING INJURY TO NON-TARGET PLANTS section for guidance in minimizing unwanted exposure to non-target plants when making aerial applications.

- Preparation:** Mix **Timberland Imazapyr Pro 4 Forestry Herbicide** for the intended use as per the instruction in the AQUATIC SITES CONTROLLED tables below.
- Adjuvants:** For best results, a nonionic or silicon based surfactant or methylated seed oil should be added, refer to the ADJUVANT section of this label for specific recommendations. If needed, a foam reducing agent maybe added.
- Tank Mixes:** To enhance the spectrum or control of emergent and floating aquatic vegetation, **Timberland Imazapyr Pro 4 Forestry Herbicide** may be tank mixed with other aquatic use herbicides. Always follow the more restrictive label when making an application involving tank mixes.
- Application:** Uniformly apply the recommended amount of **Timberland Imazapyr Pro 4 Forestry Herbicide** in 5 – 30 gallons of water per acre following the instructions for aerial applications in the MIXING AND APPLICATION INSTRUCTIONS section at the beginning of this label.
- Precautions:** DO NOT make applications by helicopter unless appropriate buffer zones to prevent spray drift out of the target area can be maintained, or when spray drift damage as a result of helicopter application can be tolerated.
- Application equipment, including landing gear must be thoroughly cleaned immediately after use of this product. Prolonged exposure of this product to uncoated steel (except stainless steel) surfaces may result in corrosion and failure of the exposed part. The maintenance of an organic coating (paint) may prevent corrosion.

#### **AQUATIC GROUND APPLICATIONS**

**Timberland Imazapyr Pro 4 Forestry Herbicide** may be applied using any of the ground application methods described in the MIXING AND APPLICATION INSTRUCTIONS section at the beginning of this label.

Refer to the AQUATIC SITES CONTROLLED table bellow for recommended use rates and species specific instructions.

#### **GROUND APPLICATION PRECAUTIONS:**

DO NOT apply more than 3 pints of **Timberland Imazapyr Pro 4 Forestry Herbicide** per acre. When making applications do not apply to the point of run off of spray solution from the target vegetation.

**AQUATIC PESTS CONTROLLED**

**Timberland Imazapyr Pro 4 Forestry Herbicide** will control the following target species as specified in the APPLICATION RECOMMENDATION section of the table. Rate recommendations are expressed in terms of product volume for broadcast applications and as a % solution for directed applications including spot treatments. For % solution applications, DO NOT apply more than the equivalent of 3 pints of **Timberland Imazapyr Pro 4 Forestry Herbicide** per acre.

FLOATING SPECIES			
COMMON NAME	SCIENTIFIC NAME	APPLICATION RATE (pints/acre)	SPECIFIC INSTRUCTIONS
Duckweed	<i>Lemna minor</i>	1.0-1.5	Apply in 100 gallons of water per acre.
Duckweed, Giant	<i>Spirodela polyriza</i>	1.0-1.5	Apply in 100 gallons of water per acre.
Frogbit	<i>Limnobium spongia</i>	0.5-1.0	Apply in 100 gallons of water per acre. Be sure to cover all actively growing foliage.
Spadderdock	<i>Nuphar luteum</i>	1.0-2.0 <b>Timberland Imazapyr Pro 4 Forestry Herbicide</b> with 4.0-6.0 glyphosate	Apply in 100 gallons of water per acre. Be sure to cover all actively growing foliage.
Water Hyacinth	<i>Eichhornia crassipes</i>	0.5-1.0	Apply in 100 gallons of water per acre. Be sure to cover all actively growing foliage.
Water Lettuce	<i>Pistia stratiotes</i>	0.5-1.0	Apply in 100 gallons of water per acre. Be sure to cover all actively growing foliage.

EMERGED SPECIES			
COMMON NAME	SCIENTIFIC NAME	APPLICATION RATE (pints/acre)	SPECIFIC INSTRUCTIONS
Alligatorweed	<i>Alternanthera philoxeroides</i>	0.5-2.0	Apply in 100 gallons of water per acre. Be sure to cover all actively growing foliage. Do not mix with glyphosate or higher <b>Timberland Imazapyr Pro 4 Forestry Herbicide</b> rates will be necessary for control.
Arrowhead, Duck-Potato	<i>Sagittaria</i> spp.	0.5-1.0	Apply in 100 gallons of water per acre. Be sure to cover all actively growing foliage.
Bacopa, lemon	<i>Bacopa</i> spp.	0.5-1.0	Apply in 100 gallons of water per acre. Be sure to cover all actively growing foliage.
Parrot feather	<i>Myriophyllum aquaticum</i>	1.0-2.0	There must be foliage above the waterline in order for sufficient herbicide uptake to take place. Be sure to cover all actively growing foliage.
Pennywort	<i>Hydrocotyle</i> spp.	0.5-1.0	Apply in 100 gallons of water per acre. Be sure to cover all actively growing foliage.
Pickerelweed	<i>Pontederia cordata</i>	1.0-1.5	Apply in 100 gallons of water per acre. Be sure to cover all actively growing foliage.
Taro, Wild; Dasheen; Elephant's Ear; Coco Yam	<i>Colocasia esculentum</i>	2.0-3.0	Apply in 100 gallons of water per acre with an adjuvant to enhance adhesion to the foliage. Be sure to cover all actively growing foliage.
Water Lilly	<i>Nymphaea odorata</i>	1.0-1.5	Apply in 100 gallons of water per acre. Be sure to cover all actively growing foliage.
Water Primrose	<i>Ludwigia uruguayensis</i>	2.0-3.0	Tank mixing with glyphosate may result in reduced control.

TERRESTRIAL / MARGINAL SPECIES			
COMMON NAME	SCIENTIFIC NAME	APPLICATION RATE (pints/acre)	SPECIFIC INSTRUCTIONS
Soda Apple, aquatic; Nightshade	<i>Solanum tampicense</i>	1.0	
Bamboo, Japanese	<i>Phyllostachys</i> spp.	1.5-2.0	Apply when plant is actively growing but before setting seed head. Be sure to cover all actively growing foliage.
Brazilian Pepper; Christmasberry	<i>Schinus terebinthifolius</i>	1.0-2.0	Apply to foliage.
Cattail	<i>Typha</i> spp.	1.0-2.0	Apply to green foliage after full leaf elongation. Higher rates should be used in the south and lower rates should provide control in the north.
Chinese Tallow Tree	<i>Sapium sebiferum</i>	8-12 fl. oz.	Apply to foliage.
Cogon Grass	<i>Imperata cylindrical</i>	1.0 quart <b>Timberland Imazapyr Pro 4 Forestry Herbicide</b> with MSO (as per label instructions)	Burn foliage and till the area to be treated. Apply in the fall to all new growth.
Cordgrass, prairie	<i>Spartina</i> spp.	2.0-3.0	Be sure to cover all actively growing foliage.
Cutgrass	<i>Zizaniopsis miliacea</i>	2.0-3.0	Be sure to cover all actively growing foliage.
Elephant Grass; Napier Grass	<i>Pennisetum purpureum</i>	1.5	Be sure to cover all actively growing foliage.
Flowering Rush	<i>butumu typla</i>	1.0-1.5	Be sure to cover all actively growing foliage.
Giant Reed; Wild Cane	<i>Arundo donax</i>	2.0-3.0	Apply in spring, being sure to cover all actively growing foliage.
Golden Bamboo	<i>Phyllostachys aurea</i>	1.5-2.0	Apply when plant is actively growing but before setting seed head. Be sure to cover all actively growing foliage.
Junglerice	<i>Echinochloa colonum</i>	1.5-2.0	Be sure to cover all actively growing foliage.
Knapweeds	<i>Centaurea</i> spp.	1.0-1.5 <b>Timberland Imazapyr Pro 4 Forestry Herbicide</b> with 1.0 quart MSO	Apply in the fall after plants begin to senesce
Knotweed, Japanese	<i>Polygonum cuspidatum</i>	1.5-2.0	Apply postemergence only, being sure to cover all actively growing foliage.
Melaleuca; Paperbark tree	<i>Melaleuca quinquenervia</i>	Established Stands: 3.0 <b>Timberland Imazapyr Pro 4 Forestry Herbicide</b> with 6.0 Glyphosate and a spray adjuvant. For best results use 4 quarts / acre of methylated seed oil for the adjuvant.	For ground foliar applications be sure to cover all actively growing foliage. For broadcast foliar applications apply aerially with a minimum of two cross passes using a rate of 10 gallons/acre.
		Spot Applications: 12.5% solution of <b>Timberland Imazapyr Pro 4 Forestry Herbicide</b> with 25% solution of Glyphosate and 1.25% solution MSO in water.	
Nutgrass: Kili'p'opu	<i>Cyperus rotundus</i>	1.0 <b>Timberland Imazapyr Pro 4 Forestry Herbicide</b>	Apply early postemergence being sure to cover all actively growing foliage.

TERRESTRIAL / MARGINAL SPECIES			
COMMON NAME	SCIENTIFIC NAME	APPLICATION RATE (pints/acre) with 1.0 quart MSO	SPECIFIC INSTRUCTIONS
Nutsedge	<i>Cyperus</i> spp.	1.0-1.5	Apply to all actively growing foliage postemergence, or as an incorporated application preemergence. Preemergence applications that are not incorporated will not provide control.
Phragmites; Common Reed	<i>Phragmites australis</i>	2.0-3.0	Apply to all actively growing foliage after full leaf elongation. If large amounts of dead stem tissue is evident, mow or burn the treatment site and allow to regrow to approximately 5' tall before applying. Lower rates will provide control in the north, higher rates are necessary in the south.
Poison Hemlock	<i>Conium maculatum</i>	1.0 <b>Timberland Imazapyr Pro 4 Forestry Herbicide</b> with 1.0 quart MSO	Apply preemergence or postemergence to rosette stage but prior to flowering.
Purple Loosestrife	<i>Lythrum salicaria</i>	0.5	Be sure to cover all actively growing foliage.
Reed Canarygrass	<i>Phalaris arundinacea</i>	1.5-2.0	Be sure to cover all actively growing foliage.
Rose, Swamp	<i>Rosa palustris</i>	1.0-1.5	Be sure to cover all actively growing foliage.
Russian Olive	<i>Elaeagnus angustifolia</i>	1.0-2.0	Be sure to cover all actively growing foliage.
Saltcedar; Tamarisk	<i>Tamarix</i> spp.	Aerial Applications: 1.0 quart <b>Timberland Imazapyr Pro 4 Forestry Herbicide</b> with 0.25% v/v NIS	Do not disturb treated plants for at least two years.
		Spot Applications: 0.5% solution of <b>Timberland Imazapyr Pro 4 Forestry Herbicide</b> with 0.25% v/v NIS	
Smartweed	<i>Polygonum</i> spp.	1	Apply early postemergence being sure to cover all actively growing foliage.
Sumac	<i>Rhus</i> spp.	1.0-1.5	Be sure to cover all actively growing foliage.
Swamp Morning Glory; Water Spinach; Kangkong	<i>Ipomoea aquatica</i>	0.5-1.0 <b>Timberland Imazapyr Pro 4 Forestry Herbicide</b> with 1.0 quart MSO	Apply early postemergence being sure to cover all actively growing foliage.
Torpedo Grass	<i>Panicum repens</i>	2	Be sure to cover all actively growing foliage.
White Top; Hoary Cress	<i>Cardaria draba</i>	0.5-1.0	Apply to foliage when flowering in the spring.
Willow	<i>Salix</i> spp.	1.0-1.5	Be sure to cover all actively growing foliage.



**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Do not store below 10°F.

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

**CONTAINER DISPOSAL:**

**Quart, 1-Gallon, 2.5-Gallon, 15-Gallon and 30-Gallon Containers** – Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Field keg, Minibulk and Bulk Containers** – When this container is empty replace the cap and seal all openings that have been opened during use, and return the container to the point of purchase or to a designated location. This container must only be refilled with the pesticide product. DO NOT reuse the container for any other purpose. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. Check for leaks after refilling and before transport. DO NOT transport if this container is damaged or leaking. If the container is damaged or leaking, or obsolete and not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling. Disposal of container must be in compliance with state and local regulations.

For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC 1-800-424-9300.

**CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

**BEFORE BUYING OR USING THIS PRODUCT**, read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability, which no employee or agent of LOVELAND PRODUCTS, INC. or the seller is authorized to vary in any way.

Follow the Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop or other plant injury, ineffectiveness, or other unintended consequences may result from such risks as weather or crop conditions, mixture with other chemicals not specifically identified in this product's label, or use of this product contrary to the label instructions, all of which are beyond the control of LOVELAND PRODUCTS, INC. and the seller. The buyer or user of this product assumes all such inherent risks.

Subject to the foregoing inherent risks, LOVELAND PRODUCTS, INC. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use when the product is used in strict accordance with such Directions for Use under normal conditions of use. EXCEPT AS WARRANTED IN THIS LABEL, THIS PRODUCT IS SOLD AS IS TO THE EXTENT ALLOWED BY APPLICABLE LAW. LOVELAND PRODUCTS, INC. MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ELIGIBILITY OF THIS PRODUCT FOR ANY PARTICULAR TRADE USAGE.

IN THE UNLIKELY EVENT THAT BUYER OR USER BELIEVES THAT LOVELAND PRODUCTS, INC. HAS BREACHED A WARRANTY CONTAINED IN THIS LABEL, BUYER OR USER MUST SEND, TO THE EXTENT REQUIRED BY APPLICABLE LAW, WRITTEN NOTICE OF SUCH CLAIM TO THE FOLLOWING ADDRESS: LOVELAND PRODUCTS, INC., ATTENTION: LAW DEPARTMENT, 7251 WEST 4TH STREET, GREELEY, CO 80634.

TO THE EXTENT ALLOWED BY APPLICABLE LAW, THE BUYER'S OR USER'S EXCLUSIVE REMEDY FOR ANY INJURY, LOSS, OR DAMAGE RESULTING FROM THE HANDLING OR USE OF THIS PRODUCT, INCLUDING BUT NOT LIMITED TO CLAIMS OF BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR OTHER TORTS, SHALL BE LIMITED TO ONE OF THE FOLLOWING, AT THE ELECTION OF LOVELAND PRODUCTS, INC. OR THE SELLER: DIRECT DAMAGES NOT EXCEEDING THE PURCHASE PRICE OF THE PRODUCT OR REPLACEMENT OF THE PRODUCT. TO THE EXTENT ALLOWED BY APPLICABLE LAW, LOVELAND PRODUCTS, INC. AND THE SELLER SHALL NOT BE LIABLE TO THE BUYER OR USER OF THIS PRODUCT FOR ANY CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES, OR DAMAGES IN THE NATURE OF A PENALTY.

Liberate®, MSO® and Phase® are registered trademarks of Loveland Products, Inc.

Banvel® and Pendulum® are registered trademarks of BASF.

Finale® is a registered trademark of Bayer.

Garlon™ and Tordon™ are trademarks of Dow AgroSciences LLC.

Escort®, Karmex®, Krenite®, Oust®, and Telar® are registered trademarks of E.I. du Pont de Nemours and Company.

Campaign® are registered trademarks of the Monsanto Company.

Embark® is a registered trademark of PBI/Gordon Corporation.

Microfoil™ is a trademark of Rhone Poulenc Ag. Company.

Vanquish® is a registered trademark of a Syngenta Group Company.

Thru-Valve™ is a trademark of Waldrum Specialties.