

## **APPLICATION TO WATERS USED FOR IRRIGATION - TERRESTRIAL/MARGINAL (NUTGRASS; KILI'PP'OPU; POISON HEMLOCK; SMARTWEED)**

General Information

### **IMPORTANT**

DO NOT use on food or feed crops. DO NOT use on Christmas trees. DO NOT apply this product within one-half mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within one-half mile of an active potable water intake in a standing body of water, such as a lake, pond or reservoir. DO NOT apply to water used for irrigation except as described in APPLICATION TO WATERS USED FOR IRRIGATION section of the label. Keep from contact with fertilizers, insecticides, fungicides, and seeds to prevent unintentional exposure of desirable vegetation to this product. DO NOT apply or drain or flush equipment on or near sensitive desirable plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. DO NOT drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the treated soil may be washed or moved into contact with their roots. DO NOT apply to lawns. DO NOT side trim desirable vegetation with this product unless severe injury and plant death can be tolerated. Prevent drift of spray to desirable plants. Clean application equipment after using this product by thoroughly flushing with water.

### **RESISTANCE**

When herbicides with the same mode of action are used repeatedly over several years to control the same weed species in the same application site, naturally occurring resistant weed biotypes may survive a correctly applied herbicide treatment, propagate and become dominant in that site. These resistant weed biotypes may not be adequately controlled. Using herbicides with different modes of action within these sites can aid in delaying the proliferation and possible dominance of herbicide resistant weed biotypes. It is advisable that each user of this product check with the local extension service for a current list of resistant weed biotypes.

## PRODUCT INFORMATION

Alligare Imazapyr 4 SL is an aqueous solution intended to be mixed in water and surfactants(s) and applied as a post-emergent spray for control of most annual and perennial grasses, broadleaf weeds, vines, brambles, hardwood brush, trees for forestry site preparation and release of conifers from woody and herbaceous competition. This product may be used for selective woody and herbaceous weed control in natural regeneration of certain conifers (see pine release). This product may also be mixed in water and used for stump and cut-stem treatment for control of unwanted woody vegetation. This product can be applied along forest roads to control undesirable vegetation. This product can be used for the control of undesirable vegetation along non-irrigation ditchbanks and for the establishment and maintenance of wildlife openings. See use directions for stump and cut stem treatments and herbaceous weed control and use directions for spot treatment of undesirable hardwood vegetation.

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

When applied postemergence to weeds, Alligare Imazapyr 4 SL will control most annual and perennial grasses and broadleaf weeds in addition to many brush and vine species. Alligare Imazapyr 4 SL will provide residual control of labeled weeds which germinate in the treated areas. Postemergence application with a surfactant is the method of choice in most situations, particularly for perennial weeds. For maximum affect, weeds should be growing vigorously at postemergence application and the spray solution should include a surfactant. Alligare Imazapyr 4 SL solutions may be broadcast by using ground or aerial equipment, or may be applied as a spot treatment by using low-volume techniques. In addition, Alligare Imazapyr 4 SL may be used for stump and cut stem treatments.

Alligare Imazapyr 4 SL controls vegetation by absorption through foliage and roots, from which it is translocated rapidly throughout the plant, where it accumulates in rapidly-growing meristematic tissue. Treated plants stop growing soon after spray treatment. Chlorosis (yellowing of plant tissue) first appears in the newest leaves and necrosis spreads from this point. In perennials, Alligare Imazapyr 4 SL is translocated into and kills the roots and underground storage tissues to prevent most regrowth. Chlorosis and tissue necrosis may not be apparent in some plant species for several weeks after application and may take months for various woody plants, brush and trees.

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

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

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

Untreated trees can occasionally be affected by root uptake of this product through movement into the top soil. Injury or loss of desirable trees or other plants may

result if this product is applied on or near desirable trees or other plants, on areas where their roots extend or in locations where the treated soil may be washed or moved into contact with their roots.

## MIXING AND APPLICATION INSTRUCTIONS

### HELICOPTER EQUIPMENT:

Thoroughly mix the specified amount of Alligare Imazapyr 4 SL in 5 to 30 gallons of water per acre and apply uniformly with properly calibrated helicopter equipment. Use a nonionic surfactant to improve weed control. A drift control agent may be used at its specified label rate. An anti-foam agent may be added, if needed. Exercise all precautions to minimize or eliminate spray drift. Avoid applications during windy or gusty conditions. Use of a Microfoil boom, Thru-Valve boom, raindrop nozzles, controlled droplet booms and nozzle configurations is recommended. Maintain adequate buffer zones to minimize potential impacts to desirable vegetation.

**IMPORTANT: DO NOT** make applications by fixed wing aircraft.

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

### GROUND EQUIPMENT:

Thoroughly mix and apply the specified amount of Alligare Imazapyr 4 SL in 5 to 100 gallons of water per acre. Use a nonionic surfactant to enhance weed control. A drift control agent and an anti-foam agent may also be added at the specified label rates, if needed. If desired, a spray pattern indicator may be used at the specified label rate. To minimize spray drift, select proper nozzles to avoid spraying a fine mist, use pressures less than 50 psi and **DO NOT** spray under gusty or windy conditions (also refer to **SPRAY DRIFT MANAGEMENT** section). Maintain adequate buffer zones to minimize potential impacts to desirable vegetation.

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

## FOLIAR APPLICATIONS

### Low Volume Foliar:

For low volume, select proper nozzles to avoid over-application. Moisten, but do not drench target vegetation causing spray solution to run off. Proper application is critical to ensure desirable results. Best results are achieved when the spray covers the crown and approximately 70 percent of the plant.

### DIRECTED FOLIAR OR SPOT SPRAY EQUIPMENT:

For directed or spot spray applications with helicopter, ground equipment or low-volume hand-operated spray equipment, thoroughly mix 1.0 to 5.0% Alligare Imazapyr 4 SL by volume (v/v) in water with at least 1/4% nonionic surfactant by volume.

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

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

### Limitations, Restrictions, and Exceptions

## AQUATIC USE SECTION

### USE PRECAUTIONS AND RESTRICTIONS FOR AQUATICS

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

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

Aerial application is restricted to helicopter only.

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

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

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

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

Recreational Use of Water in Treatment Area: There are no restrictions on the use of water in the treatment area for recreational purposes, including swimming and fishing.

Livestock Use of Water in/from Treatment Area: There are no restrictions on livestock consumption of water from the treatment area.

Precautions for Potable Water Intakes: Do not apply this product directly to water within one-half mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within one-half mile of an active potable water intake in a standing body of water such as lake, pond or reservoir. To make aquatic applications around and within one-half mile of active potable water intakes, the water intake must be turned off during application and for a minimum of 48 hours after the application. These aquatic applications may be made only in the cases where there are alternative water sources or holding ponds, which would permit the turning off of an active potable water intake for a minimum period of 48 hours after the applications. Note: Existing potable water intakes which are no longer in use, such as those replaced by connections to wells or a municipal water system, are not considered to be active potable water intakes. This restriction does not apply to intermittent, inadvertent over spray of water in terrestrial use sites.

## APPLICATION TO WATERS USED FOR IRRIGATION

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

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

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

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

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

**Use Sites:** This product is an aqueous solution to be mixed with water and a surfactant and applied as a spray solution to control floating and emergent undesirable vegetation (see AQUATIC WEEDS CONTROLLED section and the ADDITIONAL WEEDS CONTROLLED section) in or near bodies of water which may be

flowing, non-flowing, or transient. This product may be applied to specified aquatic sites that include lakes, rivers, streams, ponds, seeps, drainage ditches, canals, reservoirs, swamps, bogs, marshes, estuaries, bays, brackish water, transitional areas between terrestrial and aquatic sites and seasonal wet areas. See AQUATIC USE section of the label for precautions, restrictions, and instructions on aquatic uses.

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

**Herbicidal Activity:** This product will control most annual and perennial grasses and broadleaf weeds in addition to many brush and vine species with some residual control of undesirable species that germinate above the waterline. This product is readily absorbed through emergent leaves and stems and is translocated rapidly throughout the plant, with accumulation in the meristematic regions. Treated plants stop growing soon after spray application. Chlorosis appears first in the newest leaves, and necrosis spreads from this point. In perennials, the herbicide is translocated into, and kills, underground or submerged storage organs, which prevents regrowth. Chlorosis and tissue necrosis may not be apparent in some plant species until two or more weeks after application. Complete kill of plants may not occur for several weeks. Performance of this product may be reduced if rainfall occurs within 2 hours of application. This product does not control plants which are completely submerged or have a majority of their foliage under water.



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

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

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

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

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

the label for specific rates.

This product may be applied as a draw down treatment in areas described above. Apply this product to weeds after water has been drained and allow 14 days before reintroduction of water.

#### AQUATIC SPECIES CONTROLLED

This product will control the following target species as specified in the INSTRUCTIONS section of the table. Rates are expressed in terms of product volume for broadcast applications and as a percent solution for directed applications including spot treatments. For percent solution applications, DO NOT apply more than the equivalent of 1.5 quarts of this product per acre.

Nutgrass; Kili'p'opu; 1 pint of this product + 1 quart/acre MSO applied early postemergence.

Poison Hemlock: 1 pint of this product + 1 quart/acre MSO applied preemergence to early postemergence to rosette, prior to flowering.

Smartweed: 1 pint/acre applied early postemergence.

Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Spot treatment](#)

Rates

[field rates 0](#)

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Restricted Entry Interval

48 hours

Timings

[Postemergence \(Weed\)](#)