

LIFELINE®

HERBICIDE



ACTIVE INGREDIENT:

Glufosinate-ammonium 24.5%*

OTHER INGREDIENTS: 75.5%

TOTAL: 100.0%

*Equivalent to 2.34 pounds of active ingredient per U.S. gallon.

EPA Reg. No. 70506-310

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

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.)

FIRST AID

IF ON SKIN:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. • Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control center or doctor for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.

Have the product container or label with you when calling a Poison Center or doctor or going for treatment. For emergency medical treatment, contact Rocky Mountain Poison and Drug Safety at 1-866-673-6671.

NOTE TO PHYSICIAN: If this product is ingested, endotracheal intubation and gastric lavage should be performed as soon as possible, followed by charcoal and sodium sulfate administration. You may also contact Rocky Mountain Poison and Drug Safety at 1-866-673-6671 for emergency medical treatment information.

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC at 1-800-424-9300.



NET CONTENTS: _____ **GALLONS**



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- All handlers must wear long-sleeved shirts, long pants, shoes, and socks.
- Applicators using ground boom equipment with open cabs to treat cotton must wear long-sleeved shirts, long pants, shoes, and socks plus chemical-resistant gloves.
- Mixer/loaders supporting ground boom applications to corn, canola, soybean, cotton, citrus fruit, pome fruit, stone fruit, and olives must wear long-sleeved shirts, long pants, shoes, and socks plus chemical-resistant gloves.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENGINEERING CONTROLS STATEMENT

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

ENVIRONMENTAL HAZARDS

Do not apply directly to water or to areas where surface water is present. Do not apply to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment wash waters or rinsate.

This pesticide is toxic to vascular plants and must be used strictly in accordance with the drift and run-off precautions on this label in order to minimize off-site exposures.

Under some conditions, this product may have a potential to run-off to surface water or adjacent land. Where possible, use methods which reduce soil erosion, including no till, limited till and contour plowing; these methods also reduce pesticide run-off. Use vegetation filter strips along rivers, creeks, streams, wetlands, etc. or on the downhill side of fields where run-off could occur to minimize water run-off.

DIRECTIONS FOR USE

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

Do not use this product until you have read the entire 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.

In the State of New York Only: Not For Use In Nassau and Suffolk Counties.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses; and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry-interval (REI) of 12 hours with the following exceptions:

- Canola, field corn, and soybean scouting - REI of 4 days.
- Do not move irrigation pipe within 7 days of an application for any crop.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, including plants, soil, or water, is: coveralls worn over short-sleeved shirt and short pants; chemical-resistant gloves including barrier laminate, butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, neoprene rubber \geq 14 mils, polyvinyl chloride (PVC) \geq 14 mils, or Viton[®] \geq 14 mils; chemical-resistant footwear plus socks; protective eyewear (goggles, face shield or safety glasses).

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 applied when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses. The application for trimming and edging, industrial, recreational and public areas, and farmsteads are not within the scope of the WPS. Keep unprotected persons out of treated areas until sprays have dried.

IMPORTANT CROP SAFETY INFORMATION READ BEFORE USING THIS PRODUCT

Tree, Nut, Vine and Berry treatments

When applying LIFELINE herbicide to apples, berries, tree nuts and vines, avoid contact of solution, spray, drift or mist with green bark, stems or foliage, as injury may occur. Only trunks with calloused, mature brown bark may be sprayed unless protected from spray contact by nonporous wraps, grow tubes or waxed containers. Contact of LIFELINE herbicide with parts of trees, berries or vines other than mature brown bark can result in serious damage.

PRODUCT INFORMATION

LIFELINE herbicide is a water-soluble non-selective, broad-spectrum herbicide used for control of annual and perennial grass and broadleaf weeds in a variety of crops. Uses include applications as foliar sprays in trees, vines and berry crops for control of emerged weeds; broadcast burndown applications prior to planting or crop emergence in labeled row crops; and as over-the-top applications in canola, corn, cotton, soybeans and sugar beets designated as glufosinate-resistant. LIFELINE herbicide may be used for weed control in non-glufosinate-resistant cotton when applied with a hooded sprayer in-crop.

LIFELINE herbicide may also be applied for potato vine desiccation.

ROTATIONAL CROP RESTRICTIONS*

Rotational crop planting intervals following application of LIFELINE herbicide are listed below. Failure to comply with these restrictions may result in illegal residues in rotated crops.

Rotational Crop	Plant-back Interval (Minimum Rotational Crop Planting Interval from Last Application)
Canola, Sweet Corn, Corn, Cotton, Soybeans, Sugar Beets	May be planted at any time
Root and Tuber Vegetables, Leafy Vegetables, Brassica Leafy Vegetables, Small Grains (barley, buckwheat, oats, rye, teosinte, triticale, and wheat)	70 Days
All Other Crops	180 Days

* See **Application Directions for Potato Vine Desiccation** for Rotational Crop Restrictions specifically after LIFELINE herbicide applications to potatoes. See **Application Directions for Sugar Beets** for Rotational Crop Restrictions specifically for this crop.

RESISTANCE MANAGEMENT

Herbicide Resistance Management

For resistance management, LIFELINE is a Group 10 herbicide. Any weed population may contain or develop plants naturally resistant to LIFELINE and other Group 14 herbicides. Weed species with acquired resistance to Group 10 may eventually dominate the weed population if Group 10 herbicides are used repeatedly in the same field. Appropriate resistance-management strategies should be followed.

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

- Rotate the use of LIFELINE or other Group 10 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field. Whenever possible incorporate multiple weed control practices including mechanical cultivation, biological management practices, and crop rotation.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.

- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g. higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.

- Fields should be scouted before application to identify the weed species present and their growth stage to determine if the intended application will be effective. Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method including hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields and planting clean seed.

- If a weed pest population continues to progress after treatment with this product, discontinue use of this product and switch to another management strategy or herbicide with a different mode of action (MOA), if available. Treat weed escapes with an herbicide with a different MOA or use non-chemical methods to remove escapes. To the extent possible do not allow weed escapes to produce seeds, roots, or tubers.

Contact your local extension specialist, certified crop advisors, and/or manufacturer for additional herbicide resistance management and/or integrated weed management recommendations for specific crops and resistant weed biotypes. Report any incidence of non-performance of this product against a particular weed species to your retailer or UPL NA Inc. representative.

WEEDS CONTROLLED

The following weeds controlled charts are outlined by crop or crop group.

WEEDS CONTROLLED TABLE – TREE FRUIT, TREE NUTS, VINES, BERRIES, AND OLIVES

Rates in fluid ounces of formulated product per acre for the control of weeds at selected heights. In weed populations with mixed species, apply at a rate needed for the species that requires the highest rate. See **APPLICATION INSTRUCTIONS AND CROP USE DIRECTIONS** for specific use directions. Apply as a broadcast, banded, or spot treatment application depending on the situation to control weeds listed. Regrowth may occur due to the weed stage of growth at application, low use rate, or environmental conditions. Repeat applications of LIFELINE herbicide may be necessary to control plants generating from underground part or seed.

Weed Height in Inches	Use Rate/A
Weeds < 3" in height	48 fl oz/A (0.88 lb ai/A)
Weeds < 6" in height	56 fl oz/A (1.02 lbs ai/A)
Weeds > 6" in height and/or grasses that have tillered	56 - 82 fl oz/A (1.02 - 1.50 lbs ai/A)

Broadleaf Weed Control		
Alkali sida	Jimsonweed	Pineapple weed
Ammannia, purple	Knotweed	Puncturevine
Arrowhead, California	Kochia	Purslane, common
Buckwheat, wild	Lambsquarters, common ¹	Radish, wild
Buffalobur	Lettuce, miner's	Ragweed, common
Burclover, California	Lettuce, prickly	Ragweed, giant
Carpetweed	London rocket	Redmaids
Chickweed, common	Mallow, common	Shepherdspurse
Chinese thornapple	Malva (little mallow)	Smartweed, Pennsylvania
Cocklebur, common	Mayweed	Sowthistle, annual
Copperleaf, Virginia	Morningglory, entireleaf	Spurge, prostrate
Cudweed	Morningglory, ivyleaf	Starthistle, yellow
Cutleaf evening primrose	Morningglory, pitted	Sunflower, common
Dodder	Mullein, turkey	Sunflower, prairie
Eclipta	Mustard, wild	Sunflower, volunteer
Fiddleneck	Nettle	Swinecress
Filaree	Nightshade, black	Thistle, Russian
Filaree, redstem	Nightshade, eastern black	Turnip, wild
Fleabane, annual	Nightshade, hairy	Velvetleaf ¹
Goosefoot	Pennycress	Vervain
Gromwell, field	Pigweed, redroot	Vetch
Groundcherry, cutleaf		Virginia copperleaf
Groundsel, common		Willowherb, panicle
Henbit		

¹For optimal control, make applications between dawn and 2 hours before sunset.

Grass Weed Control		
Barnyardgrass	Foxtail, giant	Rush, toad [§]
Bluegrass, annual	Foxtail, green	Ryegrass, annual ¹
Brome, riggut	Foxtail, yellow	Sandbur, field
Bromegrass, downy	Goosegrass	Shattercane
Canarygrass	Johnsongrass, seedling	Sprangletop
Chess, soft	Junglerice	Stinkgrass
Crabgrass, large	Oat, wild	Wheat, volunteer
Crabgrass, smooth	Panicum, fall	Windgrass
Cupgrass, woolly	Panicum, Texas	Witchgrass

[§]Suppression

¹Apply to annual ryegrass prior to 3 inches in height.

Biennial and Perennial Weed Control		
Aster, white heath	Dogbank (hemp)	Plantain
Bindweed, field	Fescue	Poison ivy/oak
Bindweed, hedge	Goldenrod, gray	Quackgrass
Bluegrass, Kentucky	Guineagrass	Rocket, yellow
Bromegrass, smooth	Horsetail	Rose, wild
Bulrush	Lovegrass	<i>Rubus</i> spp.
Burdock	Mugwort	Spurge, leafy
Canada thistle	Mullein, common	Thistle, bull
Clover, Alsike	Mustard, tansy	Thistle, musk
Clover, red	Nutsedge, purple	Torpedograss
Clover, white	Nutsedge, yellow	Vaseygrass
Dallisgrass	Onion, wild	Woodsorrel
Dandelion	Orchardgrass	Yarrow, common
Dock, curly	Paragrass	

APPLICATION AND MIXING PROCEDURES

Uniform, thorough spray coverage is important to achieve consistent weed control. The use of surfactants and the addition of AMS may improve weed control. Please note that addition of MSO may cause antagonism and reduce overall performance.

Refer to the **WEEDS CONTROLLED** tables or **APPLICATIONS INSTRUCTIONS AND CROP USE DIRECTIONS** for application rates.

Ground Application: Apply early when weeds are small.

Apply in a minimum of 15 gallons of water per acre. Increase to a maximum of 40 gallons of water per acre if dense weed canopy exists or as required by climatic conditions.

Aerial Application: Apply early when weeds are small.

Thorough coverage is necessary for best weed control. For optimal weed control, apply LIFELINE herbicide in a minimum of 10 gallons per acre.

See the **MANDATORY SPRAY DRIFT MITIGATION** section for additional information on proper application of LIFELINE herbicide.

DO NOT use flood jet nozzles, controlled droplet application equipment, or air-assisted spray equipment.

COMPATIBILITY TESTING

If LIFELINE herbicide will be mixed with other pesticide products, test the compatibility of the intended tank mixture before mixing the products in the spray tank. The following procedure assumes a spray volume of 25 gallons per acre. For other spray volumes, adjust the amount of the water used accordingly. Check compatibility using this process:

1. In a clear 1-quart jar, place 1.0 pint of water from the source that will be used to prepare the spray solution.
2. For each pound of a dry tank mix partner to be applied per acre, add 1.5 teaspoons to the jar.
3. For each 16 fl oz of a liquid tank mix partner to be applied per acre, add 0.5 teaspoon to the jar.
4. For each 16 fl oz of LIFELINE herbicide to be applied per acre, add 0.5 teaspoon to the jar.
5. After adding all the ingredients, place a lid on the jar and tighten, then invert 10 times to mix.
6. Allow the mixture to stand for 15 minutes, then evaluate the solution for uniformity and stability. Look for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. If the tank mix partners are not compatible, **DO NOT** use the mixture in a spray tank.
7. Once compatibility testing is complete, dispose of any pesticide wastes in accordance with the **STORAGE AND DISPOSAL** section of this label.

MIXING INSTRUCTIONS

Tank Mix Instructions: LIFELINE herbicide may be applied in tank mix combinations with labeled rates of other products. Use the tank mix partner in accordance with label limitations and restrictions. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

LIFELINE herbicide must be applied with properly calibrated and clean equipment. LIFELINE herbicide is formulated to mix readily in water. Prior to adding LIFELINE herbicide to the spray tank, ensure that the spray tank is thoroughly clean, particularly if a herbicide with the potential to injure crops was previously used (see **CLEANING INSTRUCTIONS**).

Mix LIFELINE herbicide with water to make a finished spray solution as follows:

1. Fill the spray tank half full with water.
2. Begin agitation.
3. If mixing with a flowable/wettable powder tank mix partner, prepare a slurry of the proper amount of the product in a small amount of water. Add the slurry to the spray tank.
4. Add the appropriate amount of ammonium sulfate (AMS) to the spray tank.
5. If mixing with a liquid tank mix partner, add the liquid mix partner next.
6. Complete filling the spray tank with water.
7. Add the proper amount of LIFELINE herbicide and continue agitation.
8. If foaming occurs, use a silicone-based antifoam agent.

Ensure that all spray system lines including pipes, booms, etc. have the correct concentration of spray solution by flushing out the spray system lines before starting the crop application.

If tank mix partners are added, maintain good agitation at all times until contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to re-suspend the mixture before spraying is resumed. Keep bypass line on or near bottom of tank to minimize foaming. Screen size in nozzles or line strainers must be 50 mesh or larger.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

CLEANING INSTRUCTIONS

Before using LIFELINE herbicide, thoroughly clean bulk storage tank, refillable tank, nurse tanks, spray tank, lines, and filter, particularly if a herbicide with the potential to injure crops was previously used. Ensure that equipment is thoroughly rinsed using a commercial tank cleaner.

After using LIFELINE herbicide, triple rinse the spray equipment and clean with a commercial tank cleaner before using for crops not labeled as glufosinate-resistant. Make sure any rinsate or foam is thoroughly removed from spray tank and boom. Rinsate may be disposed following the pesticide disposal directions on this label.

MANDATORY SPRAY DRIFT MITIGATION

Ground Boom Applications:

- Spray at the appropriate boom height based on nozzle selection and nozzle spacing, but **DO NOT** exceed a boom height of 24 inches above target pest or crop canopy. Set boom to lowest effective height over the target pest or crop canopy based on equipment manufacturer's directions. Automated boom height controllers are recommended with large booms to better maintain optimum nozzle to canopy height. Excessive boom height will increase the potential for spray drift.
- For non-crop vegetation management ground applications, apply with the nozzle height no more than 4 feet above the ground or target vegetation, unless necessitated by the application equipment. Examples would include roadside, railroad, utility rights of way, forestry and other industrial vegetation management applications where safety or natural barriers obstruct application.
- Select nozzle and pressure that deliver medium to coarse spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with ASABE Standard 572.1.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

(continued)

MANDATORY SPRAY DRIFT MITIGATION (continued)

Aerial Applications:

- When applying aerially to crops, **DO NOT** release spray at a height greater than 10 feet above the crop canopy, unless a greater application height is necessary for pilot safety.
- Select nozzle and pressure that deliver medium to coarse spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with ASABE Standard 572.1.
- When applying to crops via aerial application equipment, the spray boom must be mounted on the aircraft so as to minimize drift caused by wing tip or rotor blade vortices. The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.
- When applying to crops via aerial application equipment, applicators must use 1/2 swath displacement upwind at the downwind edge of the field.
- Nozzles must be oriented so the spray is directed toward the back of the aircraft.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

SPRAY DRIFT ADVISORIES

POLLINATOR ADVISORY STATEMENT: This product contains an herbicide. Follow all label directions and precautions to minimize potential off-target exposure in order to prevent effects to non-target plants adjacent to the treated site which may serve as habitat or forage for pollinators.

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

Importance of Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. **APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS!** See **WIND, TEMPERATURE AND HUMIDITY**, and **TEMPERATURE INVERSIONS** sections of this label.

Controlling Droplet Size - Ground Boom

Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

Pressure - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. **WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.**

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.

Controlling Droplet Size - Aircraft

Number of Nozzles - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.

Nozzle Orientation - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations. **AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.**

Nozzle Type - Solid stream nozzles (including disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.

Boom Length - Longer booms increase drift potential. Therefore a shorter boom length is recommended.

Application Height - Application more than 10 feet above the canopy increases the potential for spray drift.

BOOM HEIGHT

Setting the boom at the lowest referenced height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

DRIFT REDUCTION TECHNOLOGY (DRT)

The EPA Drift Reduction Technology (DRT) Program was developed to encourage the manufacture, marketing, and use of spray technologies scientifically verified to significantly reduce pesticide drift. The use of DRTs should result in significantly less pesticide from spray applications drifting and being deposited in areas not targeted by those applications, compared to spray technologies that do not meet the minimum DRT standard. EPA-verified drift reduction technologies (DRTs) and their ratings will be added to the following webpage as they become available: <https://www.epa.gov/reducing-pesticide-drift/epa-verified-and-rated-drift-reduction-technologies>

WIND

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. **AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS.**

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

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated

cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

APPLICATION INSTRUCTIONS AND CROP USE DIRECTIONS

The following tables indicate use patterns, rates, minimum spray volumes, preharvest intervals and other precautions, restrictions and comments specific to each crop. Read and follow directions carefully.

LIFELINE herbicide is a foliar active herbicide with no soil residual activity. For best results, apply to emerged, young, actively growing weeds, targeting weeds less than 3" in height. Warm temperatures, high humidity and bright sunlight improves the performance of LIFELINE herbicide. Necrosis of leaves and young shoots occurs within 2 to 4 days after application under growing conditions.

Weeds that emerge after application will not be controlled. LIFELINE herbicide will have an effect on these weeds, however, speed of activity and control may be reduced.

Weed control may be reduced if application is made when heavy dew, fog, mist or rain are present or when weeds are under stress due to drought, cool temperatures, or extended periods of cloudiness.

When applying for control of lambsquarters and velvetleaf, make applications between dawn and 2 hours before sunset to avoid the possibility of reduced control.

The addition of ammonium sulfate at 1.5 - 3.0 lbs/acre may improve weed control. Rates are dependent on tank mix partners, environmental conditions, temperatures and potential for leaf burn.

Spray volume of 15 gallons of water per acre minimum. If dense canopy, large weeds or unfavorable growing conditions are present, increase water volume to 20 gallons of water per acre.

For optimal yield, early season weed removal is important.

To maximize weed control, do not cultivate from 5 days before an application to 7 days after an application.

LIFELINE herbicide is rainfast 4 hours after application; therefore rainfall within 4 hours may necessitate retreatment.

Consult your local Cooperative Extension Service for guidelines on optimum application timing for LIFELINE herbicide in your region.

Crop	Use Pattern	Rate/Acre	Directions	Restrictions
POME FRUIT (Crop Group 11-10) Apples, Crabapple, Loquat, Mayhaw, Quince, Pear, Oriental Pear, Azarole, Medlar, Tejocote, cultivars, varieties and/or hybrids of these	Broadcast Banded Directed Spray Spot Treatments See APPLICATION METHODS section for additional information on Banded, Directed Spray and Spot Treatments	Weeds < 3" in height 48 fl oz/A (0.88 lb ai/A) Weeds < 6" in height 56 fl oz/A (1.02 lbs ai/A) Weeds > 6" in height and/or grasses that have tillered 56 - 82 fl oz/A (1.02 - 1.50 lbs ai/A)	Apply to emerged, young, actively growing weeds. Uniform, thorough spray coverage is necessary to achieve consistent weed control. Avoid direct spray, drift or mist to desirable vegetation, green bark, stems or foliage, as injury may occur. Only trunks with callused, mature brown bark may be sprayed unless protected from spray contact by nonporous wraps, grow tubes, or waxed containers. When tank mixing with a residual herbicide no additional surfactant is needed.	DO NOT apply more than 82 fl oz (1.50 lbs ai)/A in a single application. DO NOT make more than 3 applications per year at the maximum rate of 82 fl oz (1.50 lbs ai)/A, and DO NOT apply closer than 14 days apart. DO NOT graze, harvest and/or feed treated orchard cover crops to livestock. DO NOT aerially apply. DO NOT apply through any type of irrigation system. DO NOT make spot spray applications to suckers as tree injury may occur. DO NOT apply within 14 days of harvest. DO NOT apply more than 246 fl oz (4.5 lbs ai)/A through any combination of use patterns per year.
CITRUS (Crop Group 10-10) Calamondin, Citrus citron, Citrus hybrids (chironja, tangelo, tangor), Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Orange (sour, sweet), Pummelo, Satsuma mandarin, cultivars, varieties and/or hybrids of these	Broadcast Banded Directed Spray Spot Treatments See APPLICATION METHODS section for additional information on Banded, Directed Spray and Spot Treatments	Weeds < 3" in height 48 fl oz/A (0.88 lb ai/A) Weeds < 6" in height 56 fl oz/A (1.02 lbs ai/A) Weeds > 6" in height and/or grasses that have tillered 56 - 82 fl oz/A (1.02 - 1.50 lbs ai/A)	Apply to emerged, young, actively growing weeds. Uniform, thorough spray coverage is necessary to achieve consistent weed control. Avoid direct spray, drift or mist to desirable vegetation, green bark, stems or foliage, as injury may occur. Only trunks with callused, mature brown bark may be sprayed unless protected from spray contact by nonporous wraps, grow tubes, or waxed containers.	DO NOT apply more than 82 fl oz (1.50 lbs ai)/A in a single application. DO NOT make more than 3 applications per year at the maximum rate of 82 fl oz (1.50 lbs ai)/A, and DO NOT apply closer than 14 days apart. DO NOT graze, harvest and/or feed treated orchard cover crops to livestock. DO NOT aerially apply. DO NOT apply through any type of irrigation system. DO NOT make spot spray applications to suckers as tree injury may occur. DO NOT apply within 14 days of harvest. DO NOT apply more than 246 fl oz (4.5 lbs ai)/A through any combination of use patterns per year.
GRAPES Raisin, Table, Wine	Broadcast Banded Directed Spray Spot Treatments See APPLICATION METHODS section for additional information on Banded, Directed Spray and Spot Treatments	Weeds < 3" in height 48 fl oz/A (0.88 lb ai/A) Weeds < 6" in height 56 fl oz/A (1.02 lbs ai/A) Weeds > 6" in height and/or grasses that have tillered 56 - 82 fl oz/A (1.02 - 1.50 lbs ai/A)	Apply to emerged, young, actively growing weeds. Uniform, thorough spray coverage is necessary to achieve consistent weed control. Avoid direct spray, drift or mist to desirable vegetation, green bark, stems, or foliage as injury may occur. Only trunks with callused, mature brown bark may be sprayed unless protected from spray contact by nonporous wraps, grow tubes, or waxed containers.	DO NOT apply more than 82 fl oz (1.50 lbs ai)/A in a single application. DO NOT make more than 3 applications per year at the maximum rate of 82 fl oz (1.50 lbs ai)/A, and DO NOT apply closer than 14 days apart. DO NOT aerially apply. DO NOT apply through any type of irrigation system. DO NOT make spot spray applications to suckers as tree injury may occur. DO NOT apply within 14 days of harvest. DO NOT apply more than 246 fl oz (4.5 lbs ai)/A through any combination of use patterns per year.

Crop	Use Pattern	Rate/Acre	Directions	Restrictions
STONE FRUIT (Crop Group 12-12) Apricot, Cherry (sweet, tart), Nectarine, Peach, Plum (chickasaw, damson, Japanese), Plumcot, Prune (fresh)	Broadcast Banded Directed Spray Spot Treatments See APPLICATION METHODS section for additional information on Banded, Directed Spray and Spot Treatments	Weeds < 3" in height 48 fl oz/A (0.88 lb ai/A) Weeds < 6" in height 56 fl oz/A (1.02 lbs ai/A) Weeds > 6" in height and/or grasses that have tillered 56 - 82 fl oz/A (1.02 - 1.50 lbs ai/A)	Apply to emerged, young, actively growing weeds. Uniform, thorough spray coverage is necessary to achieve consistent weed control. Avoid direct spray, drift or mist to desirable vegetation, green bark, stems, or foliage as injury may occur. Only trunks with callused, mature brown bark may be sprayed unless protected from spray contact by nonporous wraps, grow tubes, or waxed containers.	DO NOT apply more than 82 fl oz (1.50 lbs ai)/A in a single application. DO NOT make more than 2 applications per year at the maximum rate of 82 fl oz (1.50 lbs ai)/A, and DO NOT apply closer than 28 days apart. DO NOT graze, harvest and/or feed treated orchard cover crops to livestock. DO NOT aerially apply. DO NOT apply through any type of irrigation system. DO NOT make spot spray applications to suckers as tree injury may occur. DO NOT apply within 14 days of harvest. DO NOT apply more than 164 fl oz (3.0 lbs ai)/A through any combination of use patterns per year.
TREE NUTS (Crop Group 14) Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory nut, Macadamia (bush nut), Pecan, Pistachio, Walnut (black and English (Persian))	Broadcast Banded Directed Spray Spot Treatments See APPLICATION METHODS section for additional information on Banded, Directed Spray and Spot Treatments	Weeds < 3" in height 48 fl oz/A (0.88 lb ai/A) Weeds < 6" in height 56 fl oz/A (1.02 lbs ai/A) Weeds > 6" in height and/or grasses that have tillered 56 - 82 fl oz/A (1.02 - 1.50 lbs ai/A)	Apply to emerged, young, actively growing weeds. Uniform, thorough spray coverage is necessary to achieve consistent weed control. Avoid direct spray, drift or mist to desirable vegetation, green bark, stems, or foliage, as injury may occur. Only trunks with callused, mature brown bark may be sprayed unless protected from spray contact by nonporous wraps, grow tubes, or waxed containers.	DO NOT apply more than 82 fl oz (1.50 lbs ai)/A in a single application. DO NOT make more than 3 applications per year at the maximum rate of 82 fl oz (1.50 lbs ai)/A, and DO NOT apply closer than 14 days apart. DO NOT graze, harvest and/or feed treated orchard cover crops to livestock. DO NOT aerially apply. DO NOT apply through any type of irrigation system. DO NOT make spot spray applications to suckers as tree injury may occur. DO NOT apply within 14 days of harvest. DO NOT apply more than 246 fl oz (4.5 lbs ai)/A through any combination of use patterns per year.
BERRIES (Bushberry Subgroup 13b) Bushberries, Blueberry, Currant, Elderberry, Gooseberry, Huckleberry, Lingonberry, Juneberry, Salal	Broadcast Banded Directed Spray Spot Treatments See APPLICATION METHODS section for additional information on Banded, Directed Spray and Spot Treatments	Weeds < 3" in height 48 fl oz/A (0.88 lb ai/A) Weeds < 6" in height 56 fl oz/A (1.02 lbs ai/A) Weeds > 6" in height and/or grasses that have tillered 56 - 82 fl oz/A (1.02 - 1.50 lbs ai/A)	Apply to emerged, young, actively growing weeds. Uniform, thorough spray coverage is necessary to achieve consistent weed control. Avoid direct spray, drift or mist to desirable vegetation, green bark, stems, or foliage, as injury may occur. Only trunks with callused, mature brown bark may be sprayed unless protected from spray contact by nonporous wraps, grow tubes, or waxed containers.	DO NOT apply more than 82 fl oz (1.50 lbs ai)/A in a single application. DO NOT make more than 2 applications per year at the maximum rate of 82 fl oz (1.50 lbs ai)/A, and DO NOT apply closer than 14 days apart. DO NOT aerially apply. DO NOT apply through any type of irrigation system. DO NOT make spot spray applications to suckers as tree injury may occur. DO NOT apply within 14 days of harvest. DO NOT apply more than 164 fl oz (3.0 lbs ai)/A through any combination of use patterns per year.

Crop	Use Pattern	Rate/Acre	Directions	Restrictions
OLIVES	Broadcast Banded Directed Spray Spot Treatments See APPLICATION METHODS section for additional information on Banded, Directed Spray and Spot Treatments	Weeds < 3" in height 48 fl oz/A (0.88 lb ai/A) Weeds < 6" in height 56 fl oz/A (1.02 lbs ai/A) Weeds > 6" in height and/or grasses that have tillered 56 - 82 fl oz/A (1.02 - 1.50 lbs ai/A)	Apply to emerged, young, actively growing weeds. Uniform, thorough spray coverage is necessary to achieve consistent weed control. Avoid direct spray, drift or mist to desirable vegetation, green bark, stems, or foliage, as injury may occur. Only trunks with callused, mature brown bark may be sprayed unless protected from spray contact by nonporous wraps, grow tubes, or waxed containers.	DO NOT apply more than 82 fl oz (1.50 lbs ai)/A in a single application. DO NOT make more than 3 applications per year at the maximum rate of 82 fl oz (1.50 lbs ai)/A, and DO NOT apply closer than 14 days apart. DO NOT graze, harvest and/or feed treated orchard cover crops to livestock. DO NOT aerially apply. DO NOT apply through any type of irrigation system. DO NOT make spot spray applications to suckers as tree injury may occur. DO NOT apply within 14 days of harvest. DO NOT apply more than 246 fl oz (4.50 lbs ai)/A through any combination of use patterns per year.
POTATOES	Vine Desiccation	21 fl oz/A (0.38 lb ai/A)	Apply at the beginning of natural senescence of potato vines. Potato varieties with heavy or dense vines may require an application of another desiccation product to complete vine desiccation. Thorough coverage of the potato vines to be desiccated is essential. Use sufficient volume of water (20 to 100 gpa). Vary the gallons of water per acre and spray pressure as indicated by the density of the potato vines. Increase spray volume to at least 30 gallons of water per acre when potato canopy is dense or under cool and dry conditions. Apply with the spray boom as low as possible to achieve thorough coverage of the potato vines for best control and to minimize drift potential.	DO NOT apply to potatoes grown for seed. DO NOT apply more than 21 fl oz (0.38 lb ai)/A in a single application. DO NOT split application or make more than 1 application per year. DO NOT harvest potatoes until 9 days or more after application. DO NOT apply more than 21 fl oz (0.38 lb ai)/A per year.
<p>- Canola, corn, cotton, soybean and sugar beets may be planted at any time after an application of LIFELINE herbicide as a potato vine desiccant.</p> <p>- Wheat, barley, buckwheat, millet, oats, rye sorghum or triticale may be planted 30 days or more after an application of LIFELINE herbicide as a potato vine desiccant.</p> <p>- All other crops may be planted 120 or more days after an application of LIFELINE herbicide as a potato vine desiccant.</p>				

SUCKER CONTROL

When applied to suckers that are young, green, and uncalloused, LIFELINE herbicide will reduce or eliminate sucker growth. For sucker control, make a split application approximately 4 weeks apart at 56 fl oz of product/A (1.02 lbs ai/A) in a broadcast application. Thorough coverage of all sucker foliage is necessary for optimum control. Suckers must not exceed 12 inches in length. **DO NOT** make spot applications to trunk as injury may occur.

TANK MIX PARTNER INSTRUCTIONS

Because LIFELINE herbicide does not provide residual weed control or control of unexposed plant parts, certain herbicide tank mixes may aid in the performance of LIFELINE herbicide or be added to provide residual herbicide activity. No additional surfactant is needed with any tank mix partner. LIFELINE herbicide may be applied in tank mix combinations with labeled rates of other products that are labeled for the timing and method of application for the crop to be treated. Always use the tank mix partner in accordance with the label limitations and restrictions. **DO NOT** exceed label dosage rates. LIFELINE herbicide may not be mixed with any product containing a label prohibition against such mixing. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

APPLICATION METHODS

BANDED SPRAY APPLICATIONS – TREE FRUIT, TREE NUTS, VINES, BERRIES, AND OLIVES

Banded applications may be used using the following formula to calculate the amount of herbicide needed for orchard or vineyard strip sprays:

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Rate per acre broadcast} = \text{Amount of herbicide needed for treatment}$$

SPOT OR DIRECTED SPRAY APPLICATIONS – TREE FRUIT, TREE NUTS, VINES, BERRIES, AND OLIVES

For spot or directed spray applications mix LIFELINE herbicide at 1.7 fl oz of product (0.33 lb ai) per gallon of water. Apply to undesirable vegetation foliage until wet but prior to runoff. Ensure uniform and complete coverage. Thoroughly clean the sprayer following use. **DO NOT** make spot or directed spray applications to tree or vine trunk as injury may occur.

TANK MIXTURES

See **COMPATIBILITY TESTING** section of this label if tank mixing with other pesticide products.

For all crops certain herbicide tank mixes may aid in the performance of LIFELINE herbicide or be added to provide residual herbicide activity. When tank mixing with a residual herbicide no additional surfactant is needed. LIFELINE herbicide may be applied in tank mix combinations with labeled rates of other products labeled for the timing and method of application for the crop to be treated. The tank mix partner must be used in accordance with the label limitations and restrictions. No label dosage rates may be exceeded. LIFELINE herbicide may not be mixed with any product containing a label prohibition against such mixing.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

FALLOW FIELDS OR POST HARVEST

LIFELINE herbicide may be used as a substitute for tillage in fallow fields to control or suppress weeds listed in the **WEEDS CONTROLLED** table section of this label. Applications may be made in fallow fields, post-harvest, before planting or emergence of any crop listed on this label.

Apply LIFELINE herbicide at 22 - 29 fl oz/A (0.40 - 0.53 lb ai/A) to fallow fields to control specific weeds. LIFELINE herbicide must be applied with ammonium sulfate. Tank mixes with 2,4-D, glyphosate or atrazine and LIFELINE herbicide will enhance total weed control. Always follow the precautions and directions of use of the most restrictive label of products used in tank mix combinations. See the **APPLICATION AND MIXING PROCEDURES** section of this label for additional information on how to apply this product. See the **PRODUCT INFORMATION** section of this label for rotational crop restrictions.

Restrictions

- **DO NOT** apply more than 29 fl oz/A (0.53 lb ai)/A in a single application.
- **DO NOT** make more than 3 applications per year at a minimum retreatment interval of 14 days.
- **DO NOT** apply more than 87 fl oz/A (1.59 lbs ai)/A per year.

FARMSTEAD AREAS

When applied as listed, LIFELINE herbicide controls undesirable plant vegetation in non-crop areas listed under the header **WHERE TO APPLY**. Refer to **WEEDS CONTROLLED** tables for list of weeds controlled.

Apply as a spot or directed spray treatment application depending on the situation to control weeds. Regrowth may occur due to the weed stage of growth at application, low use rate, or environmental conditions. Repeat applications may be necessary to control plants generating from underground part or seed.

Apply 48 - 82 fl oz (0.88 - 1.50 lbs ai)/A per application.

See the **APPLICATION AND MIXING PROCEDURES** section of this label for additional information on how to apply this product. See the **PRODUCT INFORMATION** section of this label for rotational crop restrictions.

Restrictions

- **DO NOT** apply more than 82 fl oz (1.50 lbs ai)/A in a single application.
- **DO NOT** make more than 3 applications per year at a minimum retreatment interval of 14 days.
- **DO NOT** apply more than 246 fl oz (4.5 lbs ai)/A per year.

NON-CROP USES

LIFELINE herbicide is a non-selective water-soluble herbicide for application as a foliar spray for the control of a broad spectrum of emerged annual and perennial grass and broadleaf weeds. Plants that have not yet emerged at the time of application will not be controlled. **THOROUGH SPRAY COVERAGE IS IMPORTANT**. Visual effects and control from application of LIFELINE herbicide occur within 2 to 4 days after application under good growing conditions.

This product is non-selective and will injure or kill all green vegetation contacted by the spray. Avoid all contact with foliage or green tissue of desirable vegetation. Avoid direct spray or drift onto green, thin, or uncalloused bark of desirable vegetation or plant injury may result. If desirable vegetation is contacted, rinse with sprayed portion with water immediately.

WHERE TO APPLY

LIFELINE herbicide may be used on the following military, private, and public lands:

- | | |
|--|--|
| <ul style="list-style-type: none">• access roads• airfields• airports• alleys• along fences• around commercial or industrial structures or outbuildings• around farm and ranch structures and outbuildings• around ornamental gardens• around ornamental trees and shrubs (including Christmas trees)• bare ground• barrier strips• beaches*• campgrounds• canals• Conservation Reserve Program (CRP)*• construction sites• ditch banks• drive-in theaters• driveways• dry ditches• fencerows• firebreaks• fuel storage areas• golf courses* (excluding greens, tees, aprons, fairways, and roughs)*• gravel yards• greenhouses• habitat restoration and management areas• highways and roadsides (including aprons, medians, guardrails, and right of ways)• industrial areas• industrial plant sites• landscapes• lanes | <ul style="list-style-type: none">• lumbar yards• mulched areas• natural areas and brush control• nurseries• parking areas• parks• paths• paved areas• petroleum and other tank farms• pipeline, power, telephone, and utility rights of way• power stations• preplant to turf and ornamental plants• pumping installations• railroad rights of way• ramps• recreation areas• refineries• resorts• schools• sewage disposal areas• shadehouses• shelter belts• sidewalks• site preparation areas for conifer and hardwood• sports areas• storage areas• substations• tennis courts• trails• uncropped farmstead areas• vacant lots• walkways• wastelands• wildlife food plots*• wildlife habitat areas• wildlife openings |
|--|--|

*Not for use in California

Conservation Reserve Program (CRP)

Not for use in California. LIFELINE herbicide may be used to suppress competitive growth and seed production of undesirable vegetation when rotating out of CRP acres. Apply 48 to 56 fl oz (0.88 to 1.0 lb ai) per acre of LIFELINE herbicide in early spring, before CRP grasses break dormancy, for selective applications with broadcast spray equipment. After desirable perennial grasses have reached dormancy, late fall applications may be made. Some stunting of CRP perennial grasses may occur if applications are made when plants are not dormant.

Trimming and Edging

LIFELINE herbicide may be used for trimming and edging areas listed under the header **WHERE TO APPLY**. For control of weeds emerging from seed, the use of LIFELINE herbicide in a tank mix with pre-emergence herbicides is

advised. If spraying in areas adjacent to desirable plants, use a shield made of cardboard, plywood, or sheet metal while spraying to help prevent spray from contacting foliage of desirable plants.

Public and Recreational Areas

When applied as a spot or directed spray application, this product controls annual and perennial weeds listed on this label, in areas listed under the header **WHERE TO APPLY**.

Dormant Bermudagrass

LIFELINE herbicide may be used to control winter annual weeds in well-established ornamental dormant hybrid or common Bermudagrass. **Apply only when the turf is fully dormant and weather is cool, and prior to spring green-up or severe turfgrass injury or delayed green-up may occur.** For best results, apply LIFELINE herbicide at a rate of 56 - 82 fl oz (1.0 - 1.5 lbs ai)/A after most weeds have germinated and are in an early growth stage. Applications of LIFELINE herbicide may also be used to suppress or control target biennial or perennial weeds. Avoid high volume and spot applications where spray volume exceeds 80 gallons per acre or injury or delayed green-up may occur.

Restrictions for Dormant Bermudagrass

- **DO NOT** apply more than 82 fl oz (1.5 lbs ai)/A in a single application.
- **DO NOT** apply more than 82 fl oz (1.5 lbs ai)/A per year for this use.
- **DO NOT** make more than one application per year.

Ornamentals and Christmas Trees

When applied as advised by this label, this product may be used for the control of undesired vegetation in site preparation prior to planting, around and within shade and greenhouses, and as a directed spray around containers and field-grown established ornamentals and Christmas trees.

Ornamental and Christmas Tree Restrictions

- **DO NOT** apply directly to or allow drift to contact desirable green tissue or green, thin, or uncalloused bark of desirable vegetation or injury may result.
- **DO NOT** apply LIFELINE herbicide as an over-the-top broadcast spray in ornamentals and shade or Christmas trees.

For pre-plant site preparation applications for control of annual and perennial weeds listed on this label, in ornamental and Christmas tree plantings, ornamental and Christmas trees may be planted into the treated area after the restricted entry interval (REI) of 12 hours has elapsed.

LIFELINE herbicide may be used between and around containers and in site preparation for new plantings, and to control in-row weeds in field-grown wood plants. Apply LIFELINE herbicide as a directed spray.

For greenhouse and shadehouse applications where LIFELINE herbicide is used to control weeds, air circulation fans must be turned off during application. Apply LIFELINE herbicide as a directed spray, using large droplet and low-pressure type nozzles. Avoid drift and direct contact with desirable vegetation.

Greenhouse and Shadehouse Restrictions

- **DO NOT** use in greenhouses or shadehouses containing edible crops.

Site Preparation for Conifer and Hardwood Production Areas

Prior to planting conifer and hardwood species, LIFELINE herbicide can be used as a site preparation treatment.

- **DO NOT** apply LIFELINE herbicide as an over-the-top broadcast spray to desirable conifer or hardwood plantings.
- Restricted Entry Interval (REI) for seedling conifer and hardwood treats to be planted into the treated area: 12 hours.

WHEN TO APPLY

LIFELINE herbicide is a foliar-active material and works best when weeds are actively growing. Weed control may be reduced when applications are made to weeds under stress due to drought or cool temperatures.

Weeds under stress or in dense populations will require application of the highest rate indicated. Always apply at the labeled rate. Repeat applications or tank mixes of LIFELINE herbicide plus one or more appropriate residual herbicides will be needed to control weeds emerging from underground parts or seeds. When tank mixing with other herbicides, follow the label with the most restrictive directions for use and precautions. No label dosage rates may be exceeded.

Regrowth may occur due to the weed stage of growth at application, low use rate, or environmental conditions. Repeat treatments may be necessary to control weeds generating from underground parts or seeds.

APPLICATION DIRECTIONS

Applications may be made as a broadcast, banded or spot treatment basis depending on the situation.

Application Method	Use Rate	Directions	Restrictions
Spot or Directed Applications	1 - 2 fl oz (0.02 - 0.04 lb ai) per gallon of water	Use rate depends on weed species being controlled. Spray undesirable vegetation foliage on a spray-to-wet basis. Ensure uniform and complete coverage. Use a coarse spray. Backpack, pump-up, and hydraulic sprayers may be used. Thoroughly clean the sprayer following use.	DO NOT apply beyond runoff. DO NOT spray during windy conditions. DO NOT exceed single maximum and yearly maximum broadcast use rates.
Broadcast or Boom Applications	48 - 72 fl oz (0.88 - 1.32 lbs ai) per acre in a minimum of 40 gallons of water	Use rate depends on weed species being controlled. Use 30-psi spray pressure minimum. For smaller weeds 3 inches or less, use the lower rate. For weeds 6 inches or less use the upper end of the rate range.	DO NOT apply more than 72 fl oz (1.32 lbs ai)/A in any single application. DO NOT apply more than once per year. DO NOT apply more than 72 fl oz (1.32 lbs ai)/A in a single year.
Aerial Applications	48 - 72 fl oz (0.88 - 1.32 lbs ai) per acre in a minimum of 5 gallons of water	Use rate depends on weed species being controlled. For smaller weeds 3 inches or less, use the lower rate. For weeds 6 inches or less use the upper end of the rate range. See MANDATORY SPRAY DRIFT MITIGATION and SPRAY DRIFT ADVISORIES sections. Drift control additives may be used. If a drift control additive is used, observe and follow all directions and precautions as specified on the additive label.	DO NOT apply more than 72 fl oz (1.32 lbs ai)/A in any single application. DO NOT apply more than once per year. DO NOT apply more than 72 fl oz (1.32 lbs ai)/A in a single year.

WEEDS CONTROLLED

		Directions and Restrictions
Brush* Controlled or Suppressed		
Blackberry Deer brush Douglas fir Gallberry Hazel Honeysuckle Huckleberry Maple Multiflora rose Oak Poison ivy/oak	Pine Roundleaf Greenbrier Salmonberry Sweetgum Sumac Thimbleberry Trumpet creeper Vine maple Western red cedar	LIFELINE herbicide will provide control or suppression of these listed perennial wood weed species when applied as recommended. Apply 32 to 96 fl oz (0.59 to 1.76 lbs ai) per acre. When conditions are not optimum for good spray penetration, use the higher recommended use rate. DO NOT exceed 1.9 gallons (4.5 lbs ai) per acre per year.

* Not for use in California.

		Spot Application	Broadcast Application
Broadleaf Weeds			
Annual sowthistle Bindweed Buffalobur Burdock Canada thistle Chickweed Clover Common cocklebur Curly dock Dandelion Dogbane (hemp) Field gromwell Filaree Fleabane Goldenrod Horsetail Jimsonweed Kochia Lambquarters Leafy spurge London rocket Malva (little mallow) Marestail Mugwort	Musk thistle Nettle Nightshade Pennycress Pigweed, redroot Plantain Prickly lettuce Purslane Ragweed Russian thistle Shepherdspurse Smartweed Tansy mustard Velvetleaf Vervain Virginia copperleaf White heath aster Wild buckwheat Wild mustard Wild onion Wild rose Wild turnip Woodsorrel Yellow rocket	Apply 1 - 2 fl oz (0.02 - 0.04 lb ai)/ gallon of water	Apply 48 - 72 fl oz (0.88 - 1.32 lbs ai)/A
Grasses and Sedges			
Annual bluegrass Bahigrass Barley Barnyardgrass Bermudagrass Carpetgrass Crabgrass Cupgrass Dallisgrass Downy brome Fall panicum Fescue	Giant foxtail Goosegrass Green foxtail Guineagrass Johnsongrass (rhizome) Kentucky bluegrass Lovegrass Nutsedge Paragrass Quackgrass Ryegrass	Apply 1 - 2 fl oz (0.02 - 0.04 lb ai)/ gallon of water	Apply 48 - 72 fl oz (0.88 - 1.32 lbs ai)/A

(continued)

		Spot Application	Broadcast Application
Grasses and Sedges (continued)			
Sandbur	Torpedograss	Apply	
Shattercane	Vaseygrass	1 - 2 fl oz	Apply
Smallflower	Wheat	(0.02 -	48 - 72 fl oz
Alexandergrass	Wild oat	0.04 lb ai)/	(0.88 -
(Signalgrass)	Windgrass	gallon	1.32 lbs ai)/A
Smooth bromegrass	Yellow foxtail	of water	
Stinkgrass			

Use Notes

1. Use higher rates within the specified rate range for weed sized listed when vegetation cover is dense or when weeds are growing under stressed conditions including drought or when average temperatures are below 50° F.
2. The addition of 8.5 to 17 pounds of ammonium sulfate (spray grade) per 100 gallons of water (1 to 2% by weight) or 2 to 4 pounds of ammonium sulfate per acre may improve the level of weed control.

MIXING INSTRUCTIONS

LIFELINE herbicide must be mixed with water to make a finished spray solution. Fill the spray tank 1/2 to 3/4 full with water, start agitation, add the appropriate amount of LIFELINE herbicide then add remaining water to fill tank. Mix thoroughly.

Restrictions

- **DO NOT** apply this product through an irrigation system.
- **DO NOT** apply directly to or allow drift to contact desirable green tissue or green, thin, or uncalloused bark of desirable vegetation.
- **DO NOT** allow grazing of vegetation treated with LIFELINE herbicide.

Precautions

LIFELINE herbicide is rainfast in a minimum of one-half hour and an average of 4 hours after application depending upon weed species, environmental conditions, and herbicide application rate.

Plants may be safely planted into LIFELINE herbicide treated areas after spray has dried.

TANK MIXING

LIFELINE herbicide is compatible in tank mixes with many other herbicides. When tank mixing LIFELINE herbicide with other herbicides, follow the label with the most restrictive directions for use and precautions. No label dosage rates may be exceeded. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

A compatibility test must be conducted with any potential tank mix partner. Using a clear glass quart jar, conduct the test as described below:

1. Fill the jar three-quarters full with water.
2. Add the appropriate amount of herbicide in the following order: (a) dry flowable, (b) wettable powder, (c) aqueous suspensions, (d) flowables, (e) liquids and (f) solutions and emulsifiable or liquid concentrates. Shake or gently stir jar after each addition to thoroughly mix.
3. After adding all ingredients, let the mixture stand for 15 minutes and then look for separation, large flakes, precipitates, gels, and heavy oily film on the jar or other signs of incompatibility.
4. If the compatibility test shows signs of incompatibility, do not tank mix the product tested with LIFELINE herbicide.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Do not use or store near heat or open flame. Keep the container tightly closed and dry in a cool, well-ventilated place. Storage temperature must not exceed 125° F. If storage temperature for bulk LIFELINE herbicide is below 32° F, the material must not be pumped until its temperature exceeds 32° F. Protect against direct sunlight.

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

CONTAINER HANDLING:

[Rigid, Non-refillable containers small enough to shake (i.e., with capacities equal to or less than 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Once container is rinsed, then offer for recycling if available or reconditioning if appropriate; 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.

[Rigid, Non-refillable containers (i.e., with capacities greater than 5 gallons)] triple rinse [or pressure rinse] as follows:

Triple rinse: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container back on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use and disposal. Repeat this procedure two more times. Then offer for recycling or reconditioning if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Do not cut or weld metal containers.

Pressure rinse: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after flow begins to drip. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

[All refillable container types (containers with capacities greater than 50 lbs)]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. This is a sealed returnable container to be used only for LIFELINE herbicide. When this container is empty, it must not be opened, cleaned, or discarded. Empty containers must be returned to the original purchase location.

[Bottom discharge Intermediate Bulk Container (IBC) (containers with capacities greater than 50 lbs)]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Pressure rinsing the container before final disposal is the responsibility of the person disposing of the container. Empty the remaining contents from the Intermediate Bulk container (IBC) into application equipment or mix tank. Raise the bottom of the IBC by 1.5 inch on the side which is opposite of the bottom discharge valve to promote more complete product removal. Completely remove the top lid of the IBC. Use water pressurized to at least 40 PSI to rinse all interior portions. Continuously pump or drain rinsate into application equipment or rinsate collection system while pressure rinsing. Continue pressure rinsing for 2 minutes or until rinsate becomes clear. Replace the lid and close bottom valve. Contact your Ag retailer for container return, disposal, and recycling recommendations.

SEED DISPOSAL: To dispose of out-of-date or otherwise unmarketable seed from plants, which have been treated with LIFELINE herbicide, broadcast and lightly incorporate seed into field soils using disc or other suitable implement. Any resulting crop may be destroyed by chemical or mechanical means. Alternatively, seed may be destroyed by deep burial, incineration or landfill disposal.

**IMPORTANT INFORMATION
READ BEFORE USING PRODUCT**

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product reflect the opinion of experts based on field use and tests, and must be followed carefully. It is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of UPL NA Inc. or Seller. Handling, storage, and use of the product by Buyer or User are beyond the control of UPL NA Inc. and Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold UPL NA Inc. and Seller harmless for any claims relating to such factors.

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To the extent consistent with applicable law, UPL NA Inc. or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product and **THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF UPL NA INC. AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF UPL NA INC. OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

UPL NA Inc. and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by the duly authorized representative of UPL NA Inc.

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Safety Data Sheet

Preparation Date 29-Apr-2015

Revision date 22-Jan-2024

Revision Number: 13

1. Identification of the Substance/Preparation and of the Company/Undertaking

Identification of the product

Product Description Lifeline Herbicide

Other means of identification

Internal SDS code 12U-901
Registration number(s) 70506-310

Recommended use of the chemical and restrictions on use

Recommended use Herbicide.
Uses advised against Activities contrary to label recommendation

Details of the Supplier of the Safety Data Sheet

Supplier Address
UPL NA Inc.
PO Box 12219
Research Triangle Park, NC 27709-12219

Emergency telephone number

Company Phone Number 1-800-438-6071
Emergency telephone number Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison and Drug Safety (866) 673-6671 (24hrs)

2. Hazards Identification

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Reproductive Toxicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

EMERGENCY OVERVIEW

DANGER

Hazard Statements

Harmful if inhaled
May damage fertility or the unborn child
May cause damage to organs through prolonged or repeated exposure



Appearance Red**Physical state** Liquid**Odor** no data available**Precautionary Statements - Prevention**

Do not handle until all safety precautions have been read and understood

Wear cold insulating gloves/face shield/eye protection

Use only outdoors or in a well-ventilated area

Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Call a POISON CENTER or doctor/physician

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC)**OTHER INFORMATION****3. Composition/information on Ingredients**

Chemical name	CAS No	Weight-%
Glufosinate ammonium	Proprietary	20 - 30%
Propylene Glycol	57-55-6	10
2-Butoxyethanol	111-76-2	3.5

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. First aid measures**FIRST AID MEASURES**

Eye contact	Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
Skin contact	Wash off immediately with plenty of water for at least 15 minutes. Call a poison control center or doctor for treatment advice.
Inhalation	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
Ingestion	Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Call a physician or poison control center immediately.
Protection of First-aiders	Use personal protective equipment.

Most Important Symptoms and Effects, Both Acute and Delayed

Most Important Symptoms and Effects no data available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to physician Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media

Use: Dry chemical. Carbon dioxide (CO₂). Water spray. alcohol-resistant foam.

Unsuitable extinguishing media no data available.

Specific hazards arising from the chemical

In the event of fire and/or explosion do not breathe fumes.

Hazardous combustion products Carbon oxides. Carbon monoxide. Sulfur oxides.

Explosion data

Protective equipment and precautions for firefighters

Use personal protective equipment. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions

Provide adequate ventilation. Avoid contact with skin, eyes and inhalation of vapors. Use personal protective equipment. Wash thoroughly after handling.

Environmental Precautions

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for Clean-Up

Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers.

7. Handling and Storage

Precautions for safe handling

Handling

Wear personal protective equipment. Do not breathe vapours or spray mist. Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage

Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat. Protect from light. Keep in properly labelled containers. Keep out of the reach of children. Store in an area where cross-contamination with pesticides, fertilizers, food or feed could not occur.

Product is pourable down to -5 C (23 F). At -8 C (17.6 F), the product starts to thicken. Below -8 C (17.6 F), the product will thicken and eventually become a non-pourable crystalline solid. This is completely reversible upon warming the product above -5 C (23 F). The freezing of the product, to where it becomes a non-pourable crystalline solid, does not impact the efficacy of the product.

If product thickens or become solid - allow product to warm to 40 - 70 F (4- 21 C) using drum blankets or hot boxes. Steam may be used to warm however it should not be directly applied. DO NOT use open flame to warm.

incompatible materials

Strong acids. Strong oxidizing agents. Bases.

8. Exposure Controls/Personal Protection

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL
2-Butoxyethanol	TWA: 20 ppm	TWA: 50 ppm TWA: 240 mg/m ³ (vacated) TWA: 25 ppm (vacated) TWA: 120 mg/m ³ (vacated) S* S*

Engineering controls Investigate engineering techniques to reduce exposures. Local mechanical exhaust ventilation is preferred. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Personal protective equipment

Eye/Face Protection

Use eye protection to avoid eye contact. Where there is potential for eye contact have eye flushing equipment available. Safety glasses with side-shields.

Skin protection

Wear protective gloves/clothing. Socks and footwear.

Respiratory protection

Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus. Respiratory protection programs must comply with 29 CFR 1910.134. For emergency and other conditions where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR 1910.134.

General hygiene considerations

When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Wash hands and face before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance	Red
Physical state	Liquid
Odor	no data available
color	No information available

<u>Property</u>	<u>VALUES</u>	<u>Remarks/ Method</u>
pH	7	None known
Melting point/freezing point		
Boiling Point/Range		None known
Flash Point	> 212 F / 100 C	None known
Evaporation Rate		None known
Flammability (solid, gas)		None known
Specific gravity	1.12 -1.17	None known
Bulk density		None known
Water solubility		None known
Solubility in Other Solvents	No information available	None known
Partition coefficient: n-octanol/water		None known
Autoignition temperature		None known
Decomposition temperature		None known
Viscosity		None known

9.2 OTHER INFORMATION- NONE

10. Stability and Reactivity

Reactivity

no data available

Chemical stability

Stable under normal conditions. Hazardous polymerisation does not occur.

Possibility of hazardous reactions

None under normal processing.

Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

Incompatible materials

Strong acids. Strong oxidizing agents. Bases.

Hazardous decomposition products

Carbon oxides. Carbon monoxide. Oxides of sulfur.

11. Toxicological Information**Information on Likely Routes of Exposure****Product information**

Lifeline/Interline :

Acute oral LD50 (rat) - >5,000 mg/kg

Acute dermal LD50(rat/rabbit) = >2,000 mg/kg

Acute inhalation LC50 (rat) 4 hr = >3.133 mg/L [>12.5 mg/L 1 hr]

Primary eye irritation (rabbit) = Not an irritant

Primary dermal irritation (rabbit)= Not an irritant

Dermal sensitization = Not a sensitizer

Inhalation

HARMFUL IF INHALED.

Eye contact

Not classified.

Skin contact

Based on available data, the classification criteria are not met. Not a skin irritant or sensitizer.

Ingestion

Based on available data, the classification criteria are not met.

Information on Toxicological Effects**Symptoms**

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Sensitization**

No information available.

Mutagenic effects

no data available.

Carcinogenicity

The information below indicates whether any agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
2-Butoxyethanol 111-76-2	A3	Group 3		-

Reproductive effects

Not Available.

STOT - Single Exposure

no data available.

STOT - Repeated Exposure

no data available.

Chronic toxicity

Avoid repeated exposure.

Target organ effects

Respiratory System, EYES, skin, Central Nervous System (CNS).

Aspiration hazard

No information available.

Numerical Measures of Toxicity - Product information

LD50 Oral > 5000 mg/kg (rat)
 LD50 Dermal > 2000 mg/kg (rat)

12. Ecological Information

ecotoxicity

Do not apply directly to water to areas where surface water is present or to intertidal areas below the mean high water mark. Do not clean equipment or dispose of equipment washwater in a manner that will contaminate water resources or areable land. Do not apply when weather conditions favor drift from treated areas.

Persistence/Degradability

no data available.

Bioaccumulation/ Accumulation

Bioaccumulative potential.

Chemical name	Log Pow
Propylene Glycol 57-55-6	-1.07
2-Butoxyethanol 111-76-2	0.81

Other Adverse Effects

no data available

13. Disposal Considerations

Waste Treatment Methods

Waste Disposal Method

Pesticide wastes can be hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If the wastes cannot be disposed of by use or according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Contaminated packaging

Refer to product label.

14. Transport Information

DOT

NOT REGULATED

TDG

NOT REGULATED

IATA

NOT REGULATED

IMDG

NOT REGULATED

15. Regulatory Information

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

signal word CAUTION

Ventilation Control PESTICIDE APPLICATORS & WORKERS THESE WORKERS MUST REFER TO PRODUCT LABELING AND DIRECTIONS FOR USE IN ACCORDANCE WITH EPA WORKER PROTECTION STANDARD 40 CFR PART 170.

Harmful if absorbed through the skin. Keep out of Reach of Children.

International Inventories

USINV	Present
DSL/NDSL	Not present
EINECS/ ELINCS	Not Present
ENCS	Not Present
China	Not Present
KECL	Not Present
PICCS	Not Present
AICS	Not Present
TSCA	Not Present

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
 ENCS - Japan Existing and New Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AICS - Australian Inventory of Chemical Substances

Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

CERCLA

Not applicable

CERCLA

SARA Product RQ 0

RCRA

Pesticide Information

Component	FIFRA - Restricted Use	FIFRA - Pesticide Product Other Ingredients	FIFRA - Listing of Pesticide Chemicals	California Pesticides - Restricted Materials
Glufosinate ammonium (20 - 30%)			X	
Propylene Glycol 57-55-6 (10)			X	
2-Butoxyethanol 111-76-2 (3.5)			X	

State Regulations

State Right-to-Know

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Propylene Glycol - 57-55-6		X	X		
2-Butoxyethanol - 111-76-2	X	X	X		

International regulations

U.S. EPA Label information

EPA Pesticide registration number 70506-310

16. Other Information

NFPA HEALTH 1 flammability 1 Instability 0 Physical hazard -

Preparation Date 29-Apr-2015

Revision date 22-Jan-2024

Revision Summary

Update section 7 Update Section 9 Update section 11

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End of SDS