

GROUP	9	HERBICIDE
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## **TIMBERLINE**

Non-Selective Herbicide

### **COMMERCIAL + RESTRICTED SOLUTION**



**POISON**

**WARNING – EYE AND SKIN IRRITANT**

**REGISTRATION NO. 33456 PEST CONTROL PRODUCTS ACT**

**ACTIVE INGREDIENT: Glyphosate, 540 grams per litre,  
present as potassium salt.**

**Water Soluble Herbicide for silvicultural sites.**

**READ THE LABEL AND ATTACHED BROCHURE BEFORE USING.**

**NET CONTENTS: 4-1050 Litres, Bulk**

**ALBAUGH, LLC  
1525 NE 36th Street  
Ankeny, IA 50021  
USA  
1-800-247-8013**

For medical or treatment information from exposure to this product, call 1-888-347-6732  
(7 days/week, 24-hr).

For 24-hour chemical spill, leak, fire, exposure, or accident response information, call CHEMTREC  
toll free at 1-800-424-9300.

(FRANÇAIS AU VERSO)

## **PRECAUTIONS**

KEEP OUT OF REACH OF CHILDREN.

HARMFUL IF SWALLOWED.

HARMFUL IF INHALED.

CAUSES EYE AND SKIN IRRITATION.

Avoid contact with eyes, skin or clothing.

Avoid inhaling spray mist.

Wear a long-sleeved shirt and long pants during mixing, loading, application, clean-up and repair. In addition, wear goggles or a face shield and chemical-resistant gloves during mixing and loading, clean-up and repair.

The restricted entry interval is 12 hours after application for all agricultural uses.

Workers who must enter fields within this time period should wear a long-sleeved shirt, long pants and chemical-resistant gloves.

Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

## **FIRST AID**

**If swallowed:** Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

**If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

**If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

**If in eyes:** 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 eye. Call a poison control centre or doctor for treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

## **TOXICOLOGICAL INFORMATION**

Treat symptomatically.

## **ENVIRONMENTAL PRECAUTIONS**

- **TOXIC** to aquatic organisms and non-target terrestrial plants. Observe spray buffer zones specified under DIRECTIONS FOR USE.

- To reduce runoff from treated areas into aquatic habitats, avoid application to areas with a moderate to steep slope, compacted soil or clay.
- Avoid application when heavy rain is forecast.
- Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

## **PHYSICAL OR CHEMICAL HAZARDS**

Spray solutions of this product should be mixed, stored and applied only in stainless steel, aluminum, fiberglass, plastic and plastic-lined steel containers. **DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS.** This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

## **STORAGE**

Store product in original container only.  
Avoid contamination of seed, feed, and foodstuffs.

## **DISPOSAL**

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for the clean up of spills.

### **RECYCLABLE CONTAINERS:**

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

### **RETURNABLE CONTAINERS:**

Do not reuse container for any other purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

### **REFILLABLE CONTAINERS:**

For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not reuse this

container for any other purpose.

## **SPILLS**

Soak up small amounts of spill with absorbent clays.

Sweep or scoop up spilled materials and dispose of in an approved landfill.

Wash down surfaces (floors, truckbeds, streets, etc.) with detergent and water solution.

## **EMERGENCY NUMBERS**

For medical or treatment information from exposure to this product, call 1-888-347-6732 (7 days/week, 24-hr).

For 24-hour chemical spill, leak, fire, exposure, or accident response information, call CHEMTREC toll free at 1-800-424-9300.

## **NOTICE**

Read NOTICE before buying or using. If notice terms are not acceptable, return at once unopened.

Not for reformulation or repackaging.

## **NOTICE TO USER**

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

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**(FRANÇAIS AU VERSO)**

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# **TIMBERLINE**

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CAUSES EYE AND SKIN IRRITATION. Avoid contact with eyes, skin or clothing. Avoid inhaling spray mist.

Wear a long-sleeved shirt and long pants during mixing, loading, application, clean-up and repair. In addition, wear goggles or a face shield and chemical-resistant gloves during mixing and loading, clean-up and repair.

The restricted entry interval is 12 hours after application for all agricultural uses.

Workers who must enter fields within this time period should wear a long-sleeved shirt, long pants and chemical-resistant gloves.

Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

## **1.1 FIRST AID**

**If swallowed:** Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person. **If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

**If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

**If in eyes:** 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 eye. Call a poison control centre or doctor for treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

## **1.2 TOXICOLOGICAL INFORMATION**

Treat symptomatically.

## 1.3 NOTICE

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### NOTICE TO USER

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## 1.4 ENVIRONMENTAL PRECAUTIONS

- **TOXIC** to aquatic organisms and non-target terrestrial plants. Observe spray buffer zones specified under DIRECTIONS FOR USE.
- To reduce runoff from treated areas into aquatic habitats, avoid application to areas with a moderate to steep slope, compacted soil or clay.
- Avoid application when heavy rain is forecast.
- Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

## 1.5 PHYSICAL OR CHEMICAL HAZARDS

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## 1.6 STORAGE

Store product in original container only.  
Avoid contamination of seed, feed, and foodstuffs.

## 1.7 DISPOSAL

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency

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**RECYCLABLE CONTAINERS:**

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**REFILLABLE CONTAINERS:**

For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not reuse this container for any other purpose.

## **1.8 SPILLS**

Soak up small amounts of spill with absorbent clays.

Sweep or scoop up spilled materials and dispose of in an approved landfill.

Wash down surfaces (floors, truckbeds, streets, etc.) with detergent and water solution.

## **1.9 EMERGENCY NUMBERS**

For medical or treatment information from exposure to this product, call 1-888-347-6732 (7 days/week, 24-hr).

For 24-hour chemical spill, leak, fire, exposure, or accident response information, call CHEMTREC toll free at 1-800-424-9300.

## **DIRECTIONS FOR USE**

### **3.3 GENERAL INFORMATION**

Glyphosate is not to be applied using hand-wicking or hand-daubing methods.

**As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.**

**DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.**

When applied as directed under conditions described, this product controls undesirable vegetation listed on this label. This product also suppresses or controls undesirable vegetation listed on this label, when applied at recommended rates for release of established coniferous or deciduous species listed in the **“Conifer Release”** and **“Deciduous Release”** sections of this label.

This product may be applied using aerial and ground spray or wiper equipment for silvicultural site preparation, rights-of-ways, and conifer release, and ground spray or wiper equipment for deciduous release, forest road-side vegetation management and forest tree planting nurseries. Woody vegetation may be controlled by injection application of this product. See the **“Mixing”**, **“Application Instructions”** and **“Selective Equipment”** sections of this label for information on how to properly apply this product.

For herbaceous weeds, woody brush, and trees controlled, see the **“Vegetation Controlled”** section of this label.

For specific site preparation instructions, see the **“Site Preparation, Forest Roadside and Rights of Way Vegetation Management”** section of the label.

For specific conifer or deciduous release instructions see the **“Conifer Release”** or **“Deciduous Release”** sections of this label.

For specific industrial, military base, rights-of-way and public areas instructions see the **“Industrial, Military Bases, Rights-of-Way, Recreational, and Public Areas”** section of this label.

Treatments should not be made to trees or brush after fall leaf drop has begun.

For specific forest tree planting nursery instructions, see the **“Forest Tree Planting Nurseries”** section of this label.

For specific injection application instructions, see the **“Injection Applications”** section of this label.

For specific instructions on use of wick or wiper applicators for vegetation control, see the **“Selective Equipment”** section of this label.

This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most susceptible perennial weeds, trees and woody brush, may not occur until 7 to 14 days. Extremely cool or

cloudy weather at treatment time may slow down activity of this product and delay visual effects or control. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

Delay application until vegetation has emerged to the stages described for control of such vegetation under the “**Vegetation Controlled**” section of this label to provide adequate leaf surface to receive the spray. Unemerged plants arising from underground rhizomes or rootstocks of perennials will not be affected by the spray and will continue to grow. For this reason best control of most perennial herbaceous vegetation is obtained when treatment is made at late growth stages approaching maturity.

Always use the higher rate of this product per hectare within the recommended range on hard to control species or when vegetation growth is heavy or dense.

Do not treat vegetation under poor growing conditions such as drought stress, disease or insect damage as reduced vegetation control may result. Reduced results may also occur when treating vegetation heavily covered with dust.

Rainfall occurring soon after application may reduce effectiveness. Heavy rainfall within 2 hours after application may wash the product off the foliage and a repeat treatment may be required.

For best results spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

## **RESISTANCE-MANAGEMENT RECOMMENDATIONS**

For resistance management, TIMBERLINE is a Group 9 herbicide. Any weed population may contain or develop plants naturally resistant to TIMBERLINE and other Group 9 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance:

- Where possible, rotate the use of TIMBERLINE or other Group 9 herbicides within a growing season (sequence) or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group when such use is permitted. To delay resistance, the less resistance-prone partner should control the target weed(s) as effectively as the more resistance-prone partner.
- Herbicide use should be based on an integrated weed management program that includes scouting, historical information related to herbicide use and crop rotation, and

considers tillage (or other mechanical control methods), cultural (for example, higher crop seeding rates; precision fertilizer application method and timing to favour the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.

- Monitor weed populations after herbicide application for signs of resistance development (for example, only one weed species on the herbicide label not controlled). If resistance is suspected, prevent weed seed production in the affected area if possible by an alternative herbicide from a different group. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- Have suspected resistant weed seeds tested by a qualified laboratory to confirm resistance and identify alternative herbicide options.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact ALBAUGH, LLC at 1-800-247-8013.

### **3.0 MIXING AND APPLICATION INSTRUCTIONS**

#### **3.1 PRECAUTIONS**

**ATTENTION: AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.**

**APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.**

**AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURING DESIRABLE PLANTS AND CROPS.**

Do not allow spray mist to drift, since even minute quantities of spray can cause severe damage or destruction to nearby crops, plants or other areas on which treatment is not intended, or may cause other unintended consequences. Apply only in wind conditions in compliance with local and/or provincial regulations. Do not apply when other climatic conditions, including lesser wind velocities, will allow significant drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in fine particles (mist) which are more likely to drift.

**NOTE:** Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

Clean sprayer parts immediately after using this product by thoroughly flushing with water. Do not contaminate water sources by disposal of wastes or cleaning of equipment.

**DO NOT USE IN GREENHOUSES, REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM PONDS AND UNLINED DITCHES.**

### **3.2 MIXING**

This product may be tank mixed with a fertilizer, a supplement, or with registered pest control products, whose labels also allow tank mixing, provided the entirety of both labels, including Directions For Use, Precautions, Restrictions, Environmental Precautions, and Spray Buffer Zones are followed for each product. In cases where these requirements differ between the tank mix partner labels, the most restrictive label must be followed. Do not tank mix products containing the same active ingredient unless specifically listed on this label.

In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury. The user should contact Albaugh, LLC at 1-800-247-8013 for information before applying any tank mix that is not specifically recommended on this label.

This product mixes readily with water.

For ground, aerial or industrial type sprayers, fill the spray tank with one-half the required amount of water. Add the proper amount of herbicide (see “**Application Rates**” section of this booklet) and mix well before adding the remaining portion of water. Placing the filling hose below the surface of the liquid solution will prevent excessive foaming. Removing hose from tank immediately will avoid back siphoning into water source. Use of mechanical agitators may cause excessive foaming. Bypass lines should terminate at the bottom of the tank.

For use in knapsack sprayers, it is suggested that the proper amount of this herbicide be mixed with water in a larger container. Fill sprayer with the mixed solution.

### **3.3 APPLICATION INSTRUCTIONS**

**APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES. HAND GUN APPLICATIONS SHOULD BE PROPERLY DIRECTED TO AVOID SPRAYING DESIRABLE PLANTS.**

**AVOID DRIFT** – Drift may cause damage to any vegetation contact for which treatment is not intended. Applications in wind conditions in excess of local and/or provincial aerial spray regulations are not recommended.

To prevent injury to adjacent vegetation, appropriate spray buffer zones must be maintained. Do not apply directly to any body of water populated with fish or used for domestic purposes. Do not use in areas where adverse impact on domestic water or aquatic species is likely.

### **3.3.1 APPLICATION RATES**

To control or suppress herbaceous weeds, woody brush and trees, apply 2.0 to 4.0 litres of this product per hectare using aerial, ground boom or boomless, or mist blower equipment, or apply as a 0.7 to 1.3% solution using hand-held high volume equipment. For control of perennial herbaceous weeds in site preparation applications using aerial, ground boom or boomless, or mist blower equipment, apply 4.6 to 7.9 litres of this product per hectare as directed in the recommended volume of clean water to the foliage of actively growing vegetation.

For specific rates for wick or wiper applicators, see the “**Selective Equipment**” section of this label.

### **3.3.2 AERIAL EQUIPMENT**

Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric condition of the area and the application rates and conditions of this label. Label rates, condition and precautions are product specific. Read and understand the entire label before opening this product. Apply only at rate(s) recommended for aerial application on this label in 20 to 100 L of water per hectare unless otherwise directed on this label.

For aerial application in site preparation refer to section 5.1.1 of this label. For aerial application in conifer release refer to section 5.1.2 of this label.

For aerial application in industrial, rights-of-way and military bases refer to section 5.3.5 of this label.

Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment. As density of vegetation increases, spray volume should be increased within recommended range to ensure complete coverage.

Ensure uniform application – to avoid streaked, uneven or overlapped application, use appropriate marking devices, or equivalent electronic positioning systems (GPS).

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE. The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38412 may prevent corrosion.

### **Use Precautions**

Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the National Aerial Pesticide Application Manual, developed by the Federal/Provincial/Territorial Committee on Pest Management and Pesticides. Do not apply

to any body of water. Avoid drifting of spray onto any body of water or other non- target areas. Specified spray buffer zones should be observed.

Coarse sprays are less likely to drift; therefore do not use nozzles or nozzle configurations which dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure. Do not spray during period of dead calm or when wind velocity and direction pose a risk of spray drift. Do not spray when wind is blowing towards nearby sensitive crop, garden, terrestrial habitat (such as a shelter belt) or aquatic habitat.

### **Applicator Precautions**

Do not allow the pilot to mix chemical to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted.

It is desirable that the pilot has communication capabilities at each treatment site at the time of application.

The field crew and mixer/loader must wear chemical resistant gloves, coveralls and goggles or face shield during mixing/loading, cleanup and repair. Follow the more stringent label precautions in cases where the operator precautions exceed the generic label recommendations on the existing ground boom label.

All personnel on the job site must wash hands and face thoroughly before eating or drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

#### **3.3.3 BOOM EQUIPMENT**

For control of herbaceous weeds and woody brush and trees listed in the "Vegetation Controlled" section of this label using conventional boom equipment--Apply this product in 100 to 300 L of clean water per hectare as a broadcast spray using no more pressure than 275 kPa.

#### **3.3.4 BOOMLESS EQUIPMENT**

For control of herbaceous weeds, woody brush and trees listed in the "Vegetation Controlled" section of this label using boomless equipment such as cluster nozzles--Apply this product in 100-350 L of clean water per hectare as a broadcast spray using no more pressure than 275 kPa.

#### **3.3.5 HAND HELD AND HIGH VOLUME EQUIPMENT (use coarse sprays only)**

For control of herbaceous weeds, woody brush and trees listed in the "Vegetation Controlled" section of this label using knapsack sprayers, hose and reel sprayers or high volume spraying equipment utilizing handguns or other suitable nozzle arrangements.

Applications should be made on a spray-to-wet basis. Spray coverage should be uniform and complete. Do not spray to point of runoff.

### 3.3.6 MIST BLOWER EQUIPMENT

For control of herbaceous weeds, woody brush and trees listed in the "Vegetation Controlled" section of this label--Use the recommended rate of this product in at least 200 L of water per hectare.

## 3.4 SPRAY BUFFER ZONES

- i) Field sprayer application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) coarse classification. Boom height must be 60 cm or less above the crop or ground.

Airblast or mist blower application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** direct spray above plants to be treated. **DO NOT** apply when wind speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side. For airblast applications, turn off outward pointing nozzles at row ends and outer rows.

Aerial application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply when wind speed is greater than 16 km/h at flying height at the site of application. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) coarse classification. To reduce drift caused by turbulent wingtip vortices, the nozzle distribution along the spray boom length **MUST NOT** exceed 65% of the wing- or rotorspan.

### ii) Spray Buffer Zones:

Use of the following spray methods or equipment **DO NOT** require a spray buffer zone: hand-held or backpack sprayer and spot treatment, inter-row hooded sprayer, low clearance hooded or shielded sprayers that ensure spray drift does not come in contact with orchard crop fruit or foliage, soil drench and soil incorporation.

For application to rights-of-way and for forestry uses, spray buffer zones for protection of sensitive terrestrial habitats are not required; however, the best available application strategies which minimize off-site drift, including meteorological conditions (for example, wind direction, low wind speed) and spray equipment (for example, coarse droplet sizes, minimizing height above canopy), should be used. Applicators must, however, observe the specified spray buffer zones for protection of sensitive aquatic habitats.

The spray buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands) and sensitive aquatic habitats (such as lakes, rivers, sloughs, ponds, prairie

potholes, creeks, marshes, streams, reservoirs, wetlands and estuarine/marine water bodies).

<b>Forestry and non-cropland systems</b>	<b>Maximum number of applications</b>	<b>Spray Buffer Zones (metres) Required for the Protection of:</b>	
		<b>Aquatic habitats</b>	<b>Terrestrial habitats</b>
<b>Forest plant system and ground boom application method</b>			
<i>Forest and woodlands &gt; 500 ha</i> Site preparation	2	1	NR
<b>Forest plant system and airblast application method (including mist blower)</b>			
<i>Forest and woodlands &gt; 500 ha</i> Site preparation	2	1	NR
<b>Non-cropland system and ground boom application method</b>			
Non-crop land and industrial uses: Industrial and rights of way areas, military bases, Recreational and public areas	3	1	3*
<b>Non-cropland system and airblast application method (including mist blower)</b>			
Non-crop land and industrial uses: Industrial and rights of way areas, military bases, Recreational and public areas	3	1	30*
<b>Forestry system and aerial application method</b>			
<i>Forest and woodlands &gt;500 ha</i> Site preparation	Fixed wing	2	10
	Rotary wing	2	1
<i>Forest and woodlands &lt;500 ha</i> Site preparation	Fixed wing	2	5
	Rotary wing	2	1
<b>Non-cropland system and aerial application method</b>			
Non-crop land and industrial uses: industrial, rights of way areas and military bases only	Fixed wing	3	100
	Rotary wing	3	60

\* Spray buffer zones for the protection of terrestrial habitats are not required for use on rights-of-way including railroad ballast, rail and hydro rights-of-way, utility easements, roads, and training grounds and firing ranges on military bases. NR = Not Required

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) spray buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

The spray buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Spray Buffer Zone Calculator on the Pest Management Regulatory Agency web site.

## 4.0 VEGETATION CONTROLLED

A PARTIAL LIST OF ANNUAL, PERENNIAL HERBACEOUS WEEDS, WOODY BRUSH AND TREE SPECIES CONTROLLED INCLUDES:

### 4.1 ANNUAL WEEDS ANNUAL GRASSES

#### **Barnyard Grass**

*Echinochloa crusgalli*

#### **Blue Grass (annual)**

*Poa annua*

#### **Crab Grass (large)**

*Digitaria sanguinalis*

#### **Crab Grass (smooth)**

*Digitaria ischaemum*

#### **Downy Brome**

*Bromus tectorum*

#### **Fall Panicum**

*Panicum dichotomiflorum*

#### **Giant Foxtail**

*Setaria faberii*

#### **Green Foxtail**

*Setaria viridis*

#### **Persian Darnel**

*Lolium persicum*

#### **Volunteer Barley**

*Hordeum spp.*

#### **Volunteer Corn**

*Zea mays*

#### **Volunteer Wheat**

*Triticum spp.*

#### **Wild Oats**

*Avena fatua*

#### **Wild Proso Millet**

*Panicum miliaceum*

#### **Yellow Foxtail**

*Setaria glauca*

### OTHER

#### **Dodder**

*Cuscuta spp.*

## ANNUAL BROADLEAF WEEDS

#### **Chickweed**

*Stellaria media*

#### **Cleavers**

*Galium aparine*

#### **Cocklebur**

*Xanthium strumarium*

#### **Corn Spurry**

*Spergula arvensis*

<b>Cow Cockle</b>	<i>Saponaria vaccaria</i>	<b>Velvetleaf</b>	<i>Abutilon theophrasti</i>
<b>Eastern Black Flowering Nightshade</b>	<i>Solanum ptycanthum</i>	<b>Volunteer Canola</b>	<i>Brassica spp.</i>
<b>Fleabane (Canada)</b>	<i>Erigeron canadensis</i>	<b>Volunteer Flax</b>	<i>Linum spp.</i>
<b>Flixweed</b>	<i>Descuraria sophia</i>	<b>Wild Buckwheat</b>	<i>Polygonum convolvulus</i>
<b>Green Smartweed</b>	<i>Polygonum scabrum</i>	<b>Wild Mustard</b>	<i>Sinapsis arvensis</i>
<b>Hempnettle</b>	<i>Galeopsis tetrahit</i>	<b>Wild Tomato</b>	<i>Solanum triflorum</i>
<b>Kochia</b>	<i>Kochia scoparia</i>		
<b>Lady's-Thumb</b>	<i>Polygonum persicaria</i>		
<b>Lamb's-quarters (common)</b>	<i>Chenopodium album</i>		
<b>Narrow-leaved Hawk's Beard</b>	<i>Crepis tectorum</i>		
<b>Narrow-leaved Vetch</b>	<i>Vicia angustifolia</i>		
<b>Night-flowering Catchfly</b>	<i>Silene noctiflora</i>		
<b>Pennsylvania Smartweed</b>	<i>Polygonum pensylvanicum</i>		
<b>Prickly Lettuce</b>	<i>Lactuca scariola</i>		
<b>Ragweed (common)</b>	<i>Ambrosia artemisiifolia</i>		
<b>Redroot Pigweed</b>	<i>Amaranthus retroflexus</i>		
<b>Round-Leaved Mallow</b>	<i>Malva pusilla</i>		
<b>Russian Thistle</b>	<i>Salsola pestifer</i>		
<b>Shepherd's Purse</b>	<i>Capsella bursa-pastoris</i>		
<b>Smooth Pigweed</b>	<i>Amaranthus hybridus</i>		
<b>Sowthistle (annual)</b>	<i>Sonchus oleraceus</i>		

**Stinkweed**

*Thlaspi arvense*

**Storksbill**

*Erodium cicutarium*

#### 4.2 PERENNIAL GRASSES / SEDGES

<b>Blue Grass (Canada)</b>	<b>Foxtail Barley</b>
<i>Poa compressa</i>	<i>Hordeum jubatum</i>
<b>Blue Grass (Kentucky)</b>	<b>Quackgrass</b>
<i>Poa pratensis</i>	<i>Agropyron repens</i>
<b>Brome Grass (smooth)</b>	<b>Yellow Nutsedge</b>
<i>Bromus inermis</i>	<i>Cyperus esculentus</i>
<b>Cattail (common)</b>	<b>Cottongrass</b>
<i>Typha latifolia</i>	<i>Eriophorum chamissionis</i>
<b>Reed (common)</b>	
<i>Phragmites australis</i>	

#### 4.3 PERENNIAL BROADLEAVED WEEDS

<b>Alfalfa</b>	<b>Milkweed (common)</b>
<i>Medicago spp.</i>	<i>Asclepias syriaca</i>
<b>Cottontop</b>	<b>Poison Ivy</b>
<i>Eriophorum spp.</i>	<i>Rhus radicans</i>
<b>Curled Dock</b>	<b>Purple Loosestrife</b>
<i>Rumex crispus</i>	<i>Lythrum salicaria</i>
<b>Dandelion</b>	<b>SowThistle (peren.)</b>
<i>Taraxacum officinale</i>	<i>Sonchus arvensis</i>
<b>Field Bindweed</b>	<b>Thistle (Canada)</b>
<i>Convolvulus arvensis</i>	<i>Cirsium arvense</i>
<b>Hemp Dogbane</b>	<b>Toad Flax</b>
<i>Apocynum cannabinum</i>	<i>Linaria vulgaris</i>
<b>Hoary Cress</b>	<b>Wormwood (Absin.)</b>
<i>Cardaria draba</i>	<i>Artemisia absinthium</i>
<b>Knotweed (Japanese)</b>	
<i>Polygonum cuspidatum</i>	

#### 4.4 WOODY BRUSH AND TREES

<b>Alder</b>	<b>Pine</b>
<i>Alnus spp.</i>	<i>Pinus spp.</i>
<b>Birch</b>	<b>Poplar</b>
<i>Betula spp.</i>	<i>Populus spp.</i>
<b>Broadleaved meadowsweet*</b>	<b>Raspberry/Salmonberry</b>
<i>Spiraea latifolia</i>	<i>Rubus spp.</i>
<b>Canadian rhododendron*</b>	<b>Sheep laurel*</b>
<i>Rhododendron canadensis</i>	<i>Kalmia angustifolia</i>
<b>Cedar</b>	<b>Snowberry (Western)</b>
<i>Thuja spp.</i>	<i>Symporicarpos occidentalis</i>
<b>Cherry</b>	<b>Sweet fern*</b>
<i>Prunus spp.</i>	<i>Comptonia peregrina</i>
<b>Douglas Fir</b>	<b>Willow**</b>
<i>Pseudotsuga spp.</i>	<i>Salix spp.</i>

**Ericaceous species\*\*\****Ericaceae spp.***Withrod\****Viburnum cassinoides***Hemlock***Tsuga spp.***Maple***Acer spp.***Mountain-fly honeysuckle\****Lonicera villosa*

\* Apply as a 0.7 to 1.3% solution.

\*\* Suppression only.

\*\*\* Used in conjunction with an additional silicon-based surfactant (such as Sylgard OFX-0309 Fluid). See "**Mixing & Application Instructions**" and "**Forest-**" or "**Woodland-Management**" sections of this label for additional information.

For perennial broadleaf weeds, apply when most weeds have reached early head or early bud stage of growth. For annual and perennial grasses, apply when most weeds are at least 20 cm in height (the 3-4 leaf stage of growth).

If herbaceous weeds have been mowed, tilled, or scarified, do not treat until regrowth has reached the recommended stages, as reduced effectiveness will result. Most herbaceous weeds can be treated after a mild frost, provided the leaves are still green and actively growing at the time of application. Do not apply after the first damaging frost. Allow 7 or more days after application before tillage or other soil disturbance. Repeat treatments may be necessary to control weeds regenerating from underground parts or seed.

## 5.0 DIRECTIONS FOR USE

Spray coverage should be uniform and complete. Do not spray to the point of runoff. Do not allow spray drift to contact non-target desirable vegetation as severe damage may occur.

### 5.1 RESTRICTED USES - FOREST and WOODLANDS MANAGEMENT

#### Ground/Aerial Application for Sites greater than 500 ha (Forestry Use)

#### Aerial Application for Sites 500 ha or less (Woodlands Use)

**NOTICE TO USER:** This pest control product is to be used only in accordance with the directions on this label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

**NATURE OF RESTRICTION:** This product is to be used only in the manner authorized; consult local pesticide regulatory authorities about use permits which may be required.

Do not apply to any body of water populated with fish or used for domestic purposes. Do not use in areas where adverse impact on domestic water or aquatic species is likely.

In order to reduce the drift hazard to non-target plants and aquatic species when aerially treating silvicultural sites, ensure that appropriate spray buffer zones are maintained.

### 5.1.1 SITE PREPARATION

Use this product as broadcast treatment at recommended rates, as listed in the "**Application Rates**" section, to control herbaceous weeds, woody brush and tree species listed in the "**Vegetation Controlled**" section. Apply when brush and tree species are actively growing and when foliage is full and well-developed. For best results apply in late summer or early fall. Some autumn colours on undesirable deciduous species are acceptable provided no major leaf fall has occurred. Following site preparation application of this product, any silvicultural species may be planted.

For control of perennial weeds in site preparation application using 4.6 to 7.9 litres of this product, use 50 to 100 litres of water per hectare.

For control of vegetation on sites with infestation of ericaceous species (e.g. *Kalmia* spp. – sheep laurel, lamb kill), use 4.0 L/ha TIMBERLINE and an additional silicon based surfactant (such as SYLGARD OFX-0309 Fluid) as per label instructions. Apply between mid-August and mid-September for maximum performance.

For enhanced control of broadleaf and woody brush species, add SYLGARD OFX-0309 Fluid at a rate of 0.25% to 0.375% by volume (250 to 375 millilitres per 100 litres of water).

### 5.1.2 CONIFER RELEASE

Use this product as a broadcast spray at recommended rates, as listed in the "**Application Rates**" section, to control herbaceous weeds, woody brush and tree species, as listed in "**Vegetation Controlled**" section of this label, to release from competition the coniferous species listed below:

**Douglas Fir**

**Picea spp. Hemlock**

**Tsuga spp.**

**Pine *Pseudotsuga* spp.**

***Pinus* spp. Fir Spruce *Abies* spp.**

For conifer release of spruce seedlings in the year of transplanting, apply 1.3 to 4.0 litres of this product per hectare in plantations of summer planted spruce species (*Picea glauca*, *P. Engelmannii* and their hybrids). Conifers must be planted in the same year as treatment and in

the field for at least 18 days prior to treatment. Seedlings to be treated must clearly show bud set and bud hardening following a dormancy induction regime in the nursery. The need for such early release treatments is expected on sites which are subject to the rapid development of herbaceous and shrub communities.

Most annual and perennial weeds will be controlled or suppressed. Applications must be made after formation of final conifer resting buds. Applications made during period of active conifer growth may result in conifer injury. Avoid application during Lammas or late season conifer growth. Some autumn colours are acceptable provided no major leaf fall has occurred on undesirable brush and tree species.

For conifer release, apply where conifers have been established for more than a year. Vegetation should not be disturbed immediately prior to treatment or until visual signs appear after treatment. Symptoms of treatment are slow to appear, especially in woody species treated in late fall. Injury may occur to conifers treated for release, especially where spray patterns overlap or the higher rates are applied or when applications are made during periods of active conifer growth.

**NOTE:** This product is not recommended for use as an over-the-top broadcast spray in forest tree nurseries or in Christmas tree plantations. Applications in such sites should be limited to directed sprays (see "**Conifer Release by Directed Spraying**" section). DO NOT TREAT Christmas tree plantations in the year of anticipated harvest.

### 5.1.3 AERIAL STRIP THINNING OF CONIFERS

#### AERIAL APPLICATION

TIMBERLINE may be applied by aerial application equipment to thin overstocked Jack pine stands and to control herbaceous weeds, woody brush and tree species.

Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label.

Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label in 50 litres of water per hectare. Make only one application per year.

For aerial strip thinning of conifers (Jack pine), apply 6 – 7.9 litres of TIMBERLINE per hectare using aerial equipment applied in 50 litres of water per hectare. Add SYLGARD OFX-0309 Fluid surfactant at a rate of 0.375% by volume (375 millilitres per 100 litres of water). Apply the higher rate in situations where the trees are larger and older. Applications outside of the period when shoot elongation is occurring, would also require the higher rate.

The spray boom should be designed with evenly spaced capped and uncapped nozzles in order to deliver defined strip patterns of herbicide while leaving adjacent strips untreated.

Apply when brush and tree species are actively growing and when foliage is full and well-developed. For best results apply in late spring or early summer when shoot elongation is actively occurring.

## **5.2 WOODLANDS MANAGEMENT Treatment of 500 ha or less SITE PREPARATION (Ground Only), FOREST ROADSIDE (Ground Only) and RIGHTS-OF-WAY VEGETATION MANAGEMENT (Ground or Aerial)**

Use this product as a broadcast treatment at recommended rates, as listed in the "**Application Rates**" section, to control herbaceous weeds, woody brush and tree species listed in the "**Vegetation Controlled**" section. For control of herbaceous weeds, apply when most perennial broadleaf weeds have reached the early head or early bud stage of growth. For perennial grasses, apply when most weeds are 20 cm in height. Apply when brush and tree species are actively growing and when foliage is full and well-developed. For best results apply in late summer or early fall. Some autumn colours on undesirable deciduous species are acceptable provided no major leaf fall has occurred. Following site preparation application of this product, any silvicultural species may be planted.

For control of vegetation on sites with infestation of ericaceous species (e.g. *Kalmia spp.* – sheep laurel, lamb kill), use 4.0 L/ha TIMBERLINE and an additional silicon based surfactant (such as SYLGARD OFX-0309 Fluid) as per label instructions. Apply between mid-August and mid-September for maximum performance.

For specific instructions for use in industrial, military bases, rights-of-way, refer to Section 5.3.

For enhanced control of broadleaf and woody brush species, add SYLGARD OFX-0309 Fluid at a rate of 0.25% to 0.375% by volume (250 to 375 millilitres per 100 litres of water).

### **5.2.1 CONIFER RELEASE (Ground Only)**

Use this product as a broadcast spray at recommended rates, as listed in the "**Application Rates**" section, to control herbaceous weeds, woody brush and tree species, as listed in "**Vegetation Controlled**" section of this label, to release from competition the coniferous species listed below:

<b>Douglas Fir</b>	<b>Pine</b>
<i>Pseudotsuga spp.</i>	<i>Pinus spp.</i>
<b>Fir</b>	<b>Spruce</b>
<i>Abies spp.</i>	<i>Picea spp.</i>
<b>Hemlock</b>	
<i>Tsuga spp.</i>	

For conifer release of spruce seedlings in the year of transplanting, apply 1.3 to 4.0 litres of this product per hectare in plantations of summer planted spruce species (*Picea glauca*, *P. Engelmannii* and their hybrids). Conifers must be planted in the same year as treatment and in the field for at least 18 days prior to treatment. Seedlings to be treated must clearly show bud set and bud hardening following a dormancy induction regime in the nursery. The need for such early release treatments is expected on sites which are subject to the rapid development of herbaceous and shrub communities.

Most annual and perennial weeds will be controlled or suppressed. Applications must be made after formation of final conifer resting buds. Applications made during period of active conifer growth may result in conifer injury. Avoid application during Lammas or late season conifer growth. Some autumn colours are acceptable provided no major leaf fall has occurred on undesirable brush and tree species.

For conifer release, apply where conifers have been established for more than a year. Vegetation should not be disturbed immediately prior to treatment or until visual signs appear after treatment. Symptoms of treatment are slow to appear, especially in woody species treated in late fall. Injury may occur to conifers treated for release, especially where spray patterns overlap or the higher rates are applied or when applications are made during periods of active conifer growth.

**NOTE:** This product is not recommended for use as an over-the-top broadcast spray in forest tree nurseries or in Christmas tree plantations. Applications in such sites should be limited to directed sprays (see "**Conifer Release by Directed Spraying**" section). DO NOT TREAT Christmas tree plantations in the year of anticipated harvest.

### **5.2.2 CONIFER RELEASE BY DIRECTED SPRAYING**

Use this product to control herbaceous and woody species as listed in the "**Vegetation Controlled**" section of the label.

Apply when the undesirable species are actively growing and the foliage is full and well developed. This product does not provide pre-emergent weed control. Repeat treatments may be necessary to control weeds that generate from underground parts or seed.

Undesirable deciduous species may be treated when they already have autumn colours, provided there has been no major leaf fall. For perennial broadleaf species, apply when most weeds have reached early head or early bud stage of growth. For annual and perennial grasses, apply when most weeds are 20 cm in height (3-4 leaf stage of growth).

Direct spray so that the foliage of undesired vegetation is thoroughly wetted. Do not spray foliage to the point of run-off. Applying the product to conifers during their period of active growth (before lignification) may cause tree injury. Under such conditions, take the necessary precautions to ensure that spray, mist or spray drift does not come into contact with the foliage

or green bark of conifers being cultivated.

The product may be applied on sites regenerated by the following species (partial list): SPRUCE (*Picea spp.*), PINE (*Pinus spp.*), HEMLOCK (*Tsuga spp.*), FIR (*Abies spp.*), DOUGLAS FIR (*Pseudotsuga spp.*). No time interval is required between tree planting and application of the product. For specific rates and application instructions, see the "**Mixing Instructions**", "**Application Instructions**" and "**Vegetation Controlled**" sections of the product label.

Do not allow spray to come in contact with foliage, green stems or fruit of non-target crops, since they may be killed or severely damaged.

### **5.2.3 DECIDUOUS RELEASE (Ground Only)**

Use this product to control herbaceous weeds and woody brush mentioned in the "**Vegetation Controlled**" section of the label.

Apply when the undesirable species are actively growing, and the foliage is well developed. This product has no pre-emergent activity. Repeat treatments may be required for species which regenerate from underground stems or from seeds. Applications may be made to undesirable deciduous species with some autumn colours, provided that major leaf fall has not yet occurred.

Use a directed spray to thoroughly cover the foliage of the undesirable vegetation. Take all necessary precautions to prevent contact of the spray, spray mist or spray drift with the foliage or green bark of desirable species.

A partial list of species for use with this product on regenerated sites includes: ASH (*Fraxinus spp.*); WALNUT (*Juglans spp.*); LINDEN or BASSWOOD (*Tilia spp.*); CHERRY (*Prunus spp.*); OAK (*Quercus spp.*); ELM (*Ulmus spp.*) and POPLAR (*Populus spp.*). Product may be applied immediately after transplanting.

For use rates and application instructions, refer to the "**Application Rates**" and "**Application Instructions**" sections of this label.

### **5.2.4 INJECTION APPLICATIONS**

Woody vegetation may be controlled by injection application of this product. Apply using suitable equipment, which must penetrate into living tissue, at a rate of at least 0.33 mL (either undiluted or 1: 1 with water) per 5cm tree diameter at breast height (DBH). The cuts should be spaced evenly around the tree and below all major branches. Application may be made at any time of year, except when cold temperatures prevent adequate penetration of injection equipment, or in the spring during periods of heavy sap flow. Control of tree species with tree diameters greater than 20 cm may not be acceptable at this rate.

Total control may not be evident for 1-2 years following treatment. A partial list of species controlled includes:

<b>Alder</b>	<b>Maple*</b>	<i>Alnus spp.</i>	<b>Acer spp.</b>	<b>Birch</b>	<b>Pine</b>
		<i>Pinus spp.</i>			
<b>Cedar</b>	<b>Poplar</b>				
		<i>Populus spp.</i>			
<b>Cherry</b>	<b>Willow</b>	<i>Prunus spp.</i>	<i>Salix spp.</i>	<b>Douglas-fir</b>	<b>Hemlock</b>
				<i>Pseudotsuga spp.</i>	
		<i>Tsuga spp.</i>			

\* This treatment may only provide suppression of Big-Leaf Maple. Late fall applications will provide optimum suppression of Big-Leaf Maple

### 5.2.5 CUT STUMP APPLICATION

Woody vegetation may be controlled by the application of this product to freshly cut stumps to prevent regrowth. Because the treatment uses a concentrated solution, application must be made using low-pressure equipment e.g. squirt bottle or similar device. This product must be applied immediately to the surface of the freshly cut stump i.e. within 5 minutes, for optimum control at the prescribed rates. Only the cambial tissues of the cut surface should be treated. Apply the herbicide solution at a rate equivalent to at least 0.33 mL TIMBERLINE for every 5cm of DBH. Do not cover the remaining area nor any exposed roots, as this product does not penetrate bark well. This treatment may be used at any time of year, except during periods of heavy sap flow or when low temperatures prevent solution application due to freezing. A water soluble colorant may be added to the solution as a means of indicating which surfaces have been treated. Total control may not be evident until 1-2 years after treatment.

See the **INJECTION APPLICATIONS** section of this label for a partial list of species controlled.

### 5.2.6 FOREST TREE PLANTING NURSERIES (Ground Only)

This product may be used to control most annual and perennial weeds for site preparation prior to establishing plantations, or as a post directed spray in established plantations. Application may be made to established deciduous plantings of ASH, *Fraxinus spp.*; CARAGANA, *Caragan spp.*; CHERRY, *Prunus spp.*; ELM, *Ulmus spp.*; LILAC, *Syringa spp.*; MAPLE, *Acer spp.*; MOUNTAIN ASH, *Sorbus spp.*; POPLAR, *Populus spp.*; RUSSIAN OLIVE, *Elaeagnus spp.*; and WILLOW, *Salix spp.* Applications may be made prior to or in established conifer plantings of FIR, *Abies spp.*; JUNIPER, *Juniperus spp.*; PINE, *Pinus spp.*; SPRUCE, *Picea spp.*; and YEW, *Taxus spp.* SPRAY MAY CONTACT MATURE BARK ONLY. AVOID SPRAY CONTACT WITH FOLIAGE OR GREEN BARK OF ESTABLISHED PLANTINGS IN POST DIRECTED APPLICATIONS.

For specific rates and applications instructions, see "**Application Instructions**" section of this booklet. DO NOT APPLY UNDER WIND OR OTHER CONDITIONS WHICH ALLOW DRIFT TO OCCUR. If weeds have been mowed or tilled do not treat until regrowth has reached the recommended stages.

This product does not provide pre-emergence weed control. Repeat treatments may be

necessary to control weeds generating from underground parts or seed.

**NOTE:** This product is not recommended for use as an over-the-top broadcast spray in forest tree nurseries or in Christmas tree plantations. Applications in such sites should be limited to directed sprays (see "**Conifer Release by Directed Spraying**" section). DO NOT TREAT Christmas tree plantations in the year of anticipated harvest.

### **5.2.7 SELECTIVE EQUIPMENT - WIPER APPLICATORS**

This product may be applied with a wiper applicator, after dilution and thorough mixing with water, to listed weeds in the "**Vegetation Controlled**" section of this label. It may be used in any forestry site specified in this label.

A wiper applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution. Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation, except in cases of conifer release operations where conifers are well hardened off (see "**Conifer Release Section**"); in these cases, a slight contact between the wiper and the conifer may be acceptable. Performance may be improved by reducing speed in areas of heavy infestations to insure adequate wiper saturation. Best results may be obtained if 2 applications are made in opposite directions.

**AVOID CONTACT WITH DESIRABLE VEGETATION.** Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applicators used above desired vegetation should be adjusted so that wiper contact point is at least 5 cm above the desirable vegetation. Droplets or foam of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

Applications should be made when the weeds are a minimum of 15 cm above the desirable vegetation. Best results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatments may be necessary.

### **NOTES**

- Maintain equipment in good operating condition. Avoid leakage or dripping onto desirable vegetation.
- Adjust height of applicator to insure proper contact with weeds.
- Keep wiping surfaces clean.
- Keep wiper material at proper degree of saturation with herbicide solution.
- DO NOT use wiper equipment when weeds are wet.
- DO NOT operate equipment at ground speeds below 4 and greater than 10 km/h. Weed control may be affected by speed of application equipment. As weed density increases, reduce equipment ground speed to insure good coverage of weeds.

- Be aware that on sloping ground the herbicide solution may migrate, causing dripping on the lower end and drying on the upper end of the wiper applicator.
- Variation in equipment design may affect weed control. With wiper applicators, the wiping material and its orientation must allow delivery of sufficient quantities of the recommended herbicide solution directly to the weed.
- Care must be taken with all types of wipers to ensure that the absorbent material does not become over-saturated, causing the herbicide to drip onto desirable vegetation.
- With all equipment, drain and clean wiper parts immediately after using this product, by thoroughly flushing with water.

**For Wick or other Wiper Applicators--**Mix 0.67 litre of this product in 2 litres of water to prepare a 25% solution unless otherwise directed on this label.

### **5.3 INDUSTRIAL, MILITARY BASES, RIGHTS-OF-WAY, RECREATIONAL, AND PUBLIC AREAS.**

**ALWAYS READ PRECAUTIONARY STATEMENTS, GENERAL INFORMATION AND MIXING AND APPLICATION SECTIONS (1.0, 2.0 AND 3.0) PRIOR TO SPECIFIC APPLICATION INFORMATION IN ANY LABEL SECTION.**

This product can be used to control annual and perennial weeds and woody brush and trees listed on this label in areas such as railroad, pipeline, highway, power and telephone rights-of-way, petroleum tank farms and pumping installations; roadsides; storage areas; lumberyards; fence rows; military impact zones; artillery/small arms ranges; troop training areas; ammunition storage bunkers; industrial plant sites; parking areas; school yards, parks, golf courses, other public areas; airports and similar industrial or non-crop areas.

**NOTE:** For all industrial, military bases, rights-of-way, recreational and public areas, repeat treatments may be necessary to control regeneration or new growth.

When applied as recommended under the conditions described, this product will control weeds in non-cropland areas as listed in the following table.

#### **5.3.1 APPLICATION RATES: WEED CONTROL IN INDUSTRIAL, MILITARY BASES, RIGHTS-OF-WAY, RECREATIONAL, AND PUBLIC AREAS**

WEEDS	GROUND APPLICATION*			COMMENTS	
	BOOM APPLICATION		HAND HELD HIGH VOLUME APPLICATION % SOLUTION		
	RATE (L/ha)	WATER VOL. (L/ha)			
Annual grasses and broadleaves	1.5 – 2.33	50-100	0.67	• Actively growing weeds.	

<b>Perennial Weeds</b>					
Quackgrass	1.67 3.17 - 4.67	50-300 50-300		0.67 1.34	<ul style="list-style-type: none"> <li>Actively growing weeds.</li> </ul>
Canada Thistle (bud stage)	3.17 – 4.67	100-300		1.34	<ul style="list-style-type: none"> <li>Add 0.5% v/v of a recommended surfactant when using water volumes greater than 150 L (see section 5.3.3).</li> <li>Higher rate for long term control and for heavy infestations.</li> </ul>
Purple Loosestrife	4.0	300-600	0.67 – 1.34 (or 22% for wiper application)		<ul style="list-style-type: none"> <li>See section 5.3.6 for instructions on purple loosestrife applications.</li> </ul>
Common Reed ( <i>Phragmites australis</i> )	2.0-8.0	100-500	0.67 – 1.34		<ul style="list-style-type: none"> <li>See section 5.3.7 for instructions on common reed applications.</li> </ul>
Other Perennials	4.67 – 8.0	100-300		1.34	<ul style="list-style-type: none"> <li>Summer through fall is optimum.</li> </ul>
<b>Brush and Trees</b>					
Birch, Cherry, Poplar, Western Snowberry, Willow	2.0 - 4.0	100-300	0.67 – 1.34		<ul style="list-style-type: none"> <li>Summer through early fall (see Section 5.3.2).</li> </ul>

WEEDS	GROUND APPLICATION*				COMMENTS	
	BOOM APPLICATION		HAND HELD HIGH VOLUME APPLICATION			
	RATE (L/ha)	WATER VOL. (L/ha)	% SOLUTION			
Maple, Raspberry/ Salmonberry, Alder, Pine, Douglas Fir	4.0	100-300	1.34	<ul style="list-style-type: none"> <li>• Late summer through fall.</li> <li>• Fall is optimum.</li> </ul>		
<b>Turf Renovation</b> Annual and perennial weeds	1.67 - 8.0	100-300	0.67 – 1.34	<ul style="list-style-type: none"> <li>• Use higher end of the rate range for perennials.</li> </ul>		
<b>Roadside Vegetation (1-2m wide along shoulders)</b> Annual weeds (refer to tank mix sections on product labels for specific weeds controlled)	1) 0.5- 0.67 + 1.25 – 2.5 L  Vanquish ® Herbicide or 2) 0.5- 0.67 + 0.30 L  Vanquish Herbicide + 1.2 L 2,4-D amine 500		25-150	-	<ul style="list-style-type: none"> <li>• For 2,4-D amine formulations with a different guarantee, adjust the rate accordingly.</li> <li>• No application to standing water.</li> </ul>	
<b>Residual Control</b> Annual and perennial weeds (the simazine component of this tank mixture)	1.67 – 8.0 + 4.0 - 9.0 L Simadex® Flowable	200-400	-	<ul style="list-style-type: none"> <li>• Do not apply to coarse, sandy or gravelly soil.</li> <li>One application per year.</li> <li>• Use according to the</li> </ul>		

WEEDS	GROUND APPLICATION*			COMMENTS
	BOOM APPLICATION		HAND HELD HIGH VOLUME APPLICATION % SOLUTION	
	RATE (L/ha)	WATER VOL. (L/ha)		
will provide season long control of most germinating broadleaf weeds and grasses. It may also provide postemergent activity on certain annual weeds).				most restrictive label directions for each product in the mixture. • For other simazine formulations registered for industrial/ non-cropland areas, use equivalent rates; i.e., 2.0 – 4.5 kg simazine/ha.

\*Aerial application may be used for brush and tree control in industrial, rights-of-way only. See “**Aerial Application**” (sections 3.3.2 and 5.3.5).

### **5.3.2 APPLICATION INFORMATION FOR INDUSTRIAL, RIGHTS-OF-WAY, RECREATIONAL, AND PUBLIC AREA USES**

#### **FOLIAR APPLICATIONS**

Spray coverage should be uniform and complete. Do not spray to the point of run-off. Do not allow spray drift to contact desirable vegetation as severe injury or destruction may occur. For woody brush and trees, early season applications may take 30 to 45 days for symptoms to develop on target species. Late season application may be made to species that have some autumn colours provided no major leaf drop has occurred. Control will be observed the following spring.

#### **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE OF DESIRABLE TURF GRASSES, TREES, SHRUBS, OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.**

This product does not provide residual weed control. For subsequent weed control, follow a label approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

### **5.3.3 SURFACTANTS**

The following is a list of approved surfactants for use with TIMBERLINE for control of quackgrass for ground applications on industrial, rights-of-way, recreational and public areas uses when water volumes exceed 150 litres per hectare:

Agral® 90	SYLGARD OFX-0309 Fluid
Ag Surf	

Always refer to surfactant label for specific instructions regarding use of that product.

### **5.3.4 GROUND APPLICATIONS:**

#### **For All Industrial, Military Bases, Rights-of-Way, Recreational and Public Areas Uses**

For the control of annual and perennial weeds, woody brush and trees, apply 2 to 8 litres of this product per hectare (refer to Section 5.3.1 for specific rates). Use ground boom or boomless, or mist blower equipment, or apply as a 0.67 to 1.34 percent solution using hand held, high volume equipment. Apply as directed in the recommended volume of clean water to foliage of actively growing vegetation. Use the 4 litres per hectare rate for control of Maple, Alder, Willow\*, Pine and Douglas Fir species, as well as for hard to control perennial weed species (\*suppression only).

Spray coverage should be uniform and complete. Do not spray to the point of run-off. Do not allow spray drift to contact desirable vegetation as severe injury or destruction may occur. If weeds have been mowed or tilled, do not treat until regrowth has reached the recommended stages.

### **5.3.5 AERIAL APPLICATIONS:**

#### **For Industrial, Rights-of-Way and Military Bases Only**

For the control of annual and perennial weeds, woody brush and trees, apply 2 to 8 litres of this product per hectare (refer to Section 5.3.1 for specific rates). Use the 4 litres per hectare rate for Maple, Alder, Willow\*, Pine and Douglas Fir species as well as for hard to control perennial weed species (\*: suppression only). Use the recommended rates of this herbicide in 20 to 100 litres of water per hectare when application rates are less than 4 litres of product per hectare. When application rates exceed 4 litres of product per hectare, use 50 to 100 litres of water per hectare. This product may also be applied by aerial application for the control of annual and perennial weeds, woody brush and trees in artillery impact zones on military bases.

As density of vegetation increases, spray volume should be increased within the recommended range to ensure complete coverage.

Coarse sprays are less likely to drift; therefore do not use nozzles or nozzle configurations which dispense spray as fine spray droplets. Do not angle nozzles forward into the air stream and do not increase spray volume by increasing nozzle pressure.

Ensure uniform application – To avoid streaked, uneven or overlapped application, use appropriate marking devices, or equivalent electronic positioning systems (GPS).

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR ARE MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38412 may prevent corrosion.

### **5.3.6 PURPLE LOOSESTRIFE CONTROL**

- DO NOT TREAT PLANTS OVER OPEN WATER. TIMBERLINE is not registered for direct application to bodies of water.
- Treat when plants are actively growing at or beyond the bloom stage. If using hand held equipment, spray-to-wet.
- For wiper applications see section 5.2.7.
- Where feasible, remove flower heads before treatment to ensure prevention of seed set.
- For large (>1.6 ha) monocultures of loosestrife, work from the periphery inward in successive years to allow competing vegetation to invade the treated area.
- A long-term control strategy should include measures to control both established plants and seedlings. Sprayed areas should be monitored to determine the appropriate follow-up management. Early detection and treatment of second and third generation seedlings is important to prevent re-infestation of purple loosestrife. Desirable native plant communities will then have a chance to become re-established.

### **5.3.7 Common Reed (*Phragmites australis*)**

- DO NOT TREAT PLANTS OVER OPEN WATER. TIMBERLINE is not registered for direct application to bodies of water.

For partial control and for best results, treat in late summer or early fall when plants are

actively growing and in full bloom. Treatment before or after this stage may lead to reduced control.

- Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.
- For higher volumes (i.e., 150–300 L/ha) an approved surfactant should be added at 0.5 L per 100 L of clean water (0.5% v/v).
- For large monocultures of common reed, work from the periphery inward in successive years to allow competing vegetation to invade the treated area.
- A long-term control strategy should include measures to control both established plants and seedlings. Sprayed areas should be monitored to determine the appropriate follow-up management. Early detection and treatment of second and third generation seedlings is important to prevent re-infestation of common reed. Desirable native plant communities will then have a chance to become re-established.

### **5.3.8 SELECTIVE APPLICATION FOR ALL INDUSTRIAL, MILITARY BASES, RIGHTS-OF-WAY, RECREATIONAL, AND PUBLIC AREAS USES**

Selective equipment such as WICK or WIPER applicators can be used to control emerged weeds in non-crop areas and tree plantings. See “**Selective Equipment – Wiper Applicators**” (section 5.2.7) for more information.

### **5.3.9 TURFGRASS RENOVATION**

When applied as directed, under conditions described, this product controls most existing vegetation. Apply this product at rates specified in “**Application Rates: Weed Control in Industrial, Military Bases, Rights-of-Way, Recreational and Public Areas**” (section 5.3.1).

#### **DO NOT DISTURB SOIL OR UNDERGROUND PLANT PARTS BEFORE TREATMENT.**

Where existing vegetation is growing in a field or unmowed situation, apply this product to actively growing weeds. As density of the target vegetation increases, rate and spray volume should be increased within the recommended ranges to ensure effectiveness of the treatment.

Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good

interception of the spray and proper translocation into underground plant parts. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts.

For maximum control of existing vegetation, delay establishment to determine if regrowth from escaped underground plant parts occurs. When repeat treatments are necessary, sufficient regrowth must be attained prior to application. Desirable turfgrass may be established following the above procedures.

### 5.3.10 TREE PLANTINGS

#### **SHELTERBELTS AND NURSERY STOCK (WOODY ORNAMENTALS)**

This product may be used to control listed annual or perennial weeds (section 5.3.1) prior to planting of ornamental tree nurseries or shelterbelts of the following species:

#### **DECIDUOUS**

##### **Ash**

*Fraxinus spp.*

##### **Caragana**

*Caragana spp.*

##### **Cherry**

*Prunus spp.*

##### **Elm**

*Ulmus spp.*

##### **Lilac**

*Syringa spp.*

##### **Maple**

*Acer spp.*

##### **Mountain Ash**

*Sorbus spp.*

##### **Poplar**

*Populus spp.*

#### **CONIFEROUS**

##### **Fir**

*Abies spp.*

##### **Juniper**

*Juniperus spp.*

##### **Pine**

*Pinus spp.*

##### **Spruce**

*Picea spp.*

##### **Yew**

*Taxus spp.*

**Russian Olive**

*Elaeagnus spp.*

**Willow**

*Salix spp.*

**NOTE:** this particular application is not recommended for use as an over-the-top broadcast or directed spray in tree nurseries, shelterbelts or in Christmas tree plantations. The use of TIMBERLINE could result in severe injury to the crop trees.

**SHORT ROTATION INTENSIVE POPLAR CROPS**

DO NOT APPLY BY AIR.

This product may be used to control listed annual or perennial weeds prior to planting, or as a post directed spray in established crops of short rotation intensive culture (SRIC) Poplar species (*Populus spp.*)

**EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE SOLUTION, SPRAY, DRIFT, OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK, BRANCHES, SUCKERS, FRUIT, CANES OF BLUEBERRY BUSHES, OR OTHER PARTS OF TREES OR VINES. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.**

Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed or cut and have not been allowed to regrow to the recommended stage for treatment.

TIMBERLINE may be applied prior to planting or as a post directed spray in established short rotation intensive culture crops. Apply TIMBERLINE up to 8 L/ha in 50 – 100 liters or 150 – 300 L/h for quackgrass control by ground application only. Applications can be made 1-3 times per year during establishment however, not to exceed the limit of 8 L/ha per year. Shielded sprayers must be utilized when applying post directed spray solutions. Allow a 6-8 week interval between spray applications. Apply to actively growing weeds.

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