


(Container)

 **Dow AgroSciences**
Garlon* 4
Herbicide

GROUP	4	HERBICIDE
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For the control of undesirable woody plants and annual and perennial broadleaved weeds on pastures and rangelands, and in non-crop areas such as rights-of-way, military bases and industrial sites.

COMMERCIAL

READ THE LABEL AND BOOKLET BEFORE USING
KEEP OUT OF REACH OF CHILDREN

GUARANTEE: triclopyr 480g acid equivalent/L
(present as butoxyethyl ester)

REGISTRATION NO. 21053 PEST CONTROL PRODUCTS ACT

CAUTION  **POISON**

HARMFUL IF SWALLOWED
MAY CAUSE SKIN IRRITATION
MAY BE HARMFUL IF ABSORBED THROUGH SKIN
POTENTIAL SKIN SENSITIZER

NET CONTENTS: 10 L

Dow AgroSciences Canada Inc.
Suite 2100, 450 - 1 Street S.W.
Calgary, Alberta
T2P 5H1
1-800-667-3852

*Trademark of Dow AgroSciences LLC

PRECAUTIONS

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Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid breathing vapour or spray mist. Where frequent inhalation of spray mist cannot be avoided, occupational exposure to pesticides can be reduced by use of an air-purifying respirator equipped with organic vapour cartridges. Avoid contact with treated foliage and other contaminated surfaces while wet. When spraying, follow a "walk in, spray out" pattern to avoid contact with treated brush. Take precautions to avoid spray drift. Direct spray outward and away from self. Avoid overhead spraying. Select spray nozzle types and pressures to minimize drift potential.

Practice good personal hygiene. At all times when handling herbicide concentrate or applying the dilute mixture, plan events in such a way as to minimize personal exposure. Locate wash stations with an adequate supply of fresh water on work vehicles. Wash thoroughly with soap and water after handling and before eating or smoking. Bathe or take a hot shower after work using plenty of soap.

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada's web site at www.croplife.ca.

To minimize exposure when handling and applying Garlon 4 Herbicide:

- Read and follow directions in the Protective Equipment Requirements and Operator Use Precautions sections on the label.
- Applicators should receive training on how to minimize personal exposure while applying high volume stem-foliage applied herbicides, including the "walk in, spray out" technique and on how to minimize contact with treated foliage.
- Applicators should be supervised to ensure that all label directions and proper application techniques are followed.
- For broadcast treatment, do not enter or allow worker entry into treated areas during a restricted entry interval (REI) of 12 hours.
- 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.
- Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

PROTECTIVE EQUIPMENT REQUIREMENTS

Handling Concentrate

When handling concentrate, wear goggles or faceshield, chemical resistant gloves (nitrile or neoprene), clean coveralls over normal work clothes, impermeable head covering and chemical resistant boots (rubber) during all mixing/loading activities. Remove clothing contaminated with concentrate promptly and wash before reuse. Exercise care in removal of contaminated clothing to avoid secondary skin contact. Segregate contaminated articles and launder separately from other clothing using a double rinse. Leather articles such as boots, belts or watchbands should be destroyed if contaminated by concentrate.

Applying Dilute Spray Solution

When spraying dilute solution and during equipment maintenance and repair, wear clean coveralls over normal working clothes, impermeable head covering, chemical resistant gloves (nitrile or neoprene) and chemical resistant footwear such as rubber boots.

PHYSICAL OR CHEMICAL HAZARDS

COMBUSTIBLE. Do not use or store near heat or open flame.

FIRST AID

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

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.

TOXICOLOGICAL INFORMATION

The decision of whether to induce vomiting or not should be made by an attending physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. **This product contains petroleum distillates.** No specific antidote. Employ supportive care. Treatment should be based on judgment of the physician in response to reactions of the patient.

Do not ship or store with food, feeds, drugs or clothing.

ENVIRONMENTAL HAZARDS

This product is highly toxic to fish, aquatic plants and aquatic invertebrates and is not labelled for application to water surfaces. Keep out of wetlands, lakes, ponds, streams, rivers and wildlife habitats at the edge of bodies of water. Do not contaminate water by cleaning of equipment or disposal of wastes. The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (e.g., sandy soil) and/or where the depth to the water table is shallow.

Sensitive terrestrial and aquatic habitat must be protected. A buffer zone should be maintained to avoid overspray and drift into these habitats (refer to Ground Application and/or Aerial Application sections on the buffer zone requirements and spray drift control recommendations). Examples of habitat which may border treated areas are shelterbelts, wetlands (e.g., potholes), sloughs, dry slough borders, non-target wooded areas and vegetated areas adjacent to water.

This product contains a petroleum distillate which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems during application. Do not contaminate these systems through direct application, disposal of waste or cleaning equipment.

STORAGE


Do not contaminate water, food or feed by storage or disposal. Store above -2°C or agitate container before use.

DISPOSAL

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.

(Booklet)

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Sensitive terrestrial and aquatic habitat must be protected. A buffer zone should be maintained to avoid overspray and drift into these habitats (refer to Ground Application and/or Aerial Application sections on the buffer zone requirements and spray drift control recommendations). Examples of habitat which may border treated areas are shelterbelts, wetlands (e.g., potholes), sloughs, dry slough borders, non-target wooded areas and vegetated areas adjacent to water.

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DISPOSAL

Recyclable Containers:

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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 this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

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 clean-up of spills.

GENERAL INFORMATION

Garlon 4 Herbicide is recommended for the control of undesirable woody plants and annual and perennial broadleaved weeds in pastures and rangelands, and in non-crop areas, including: rights-of-way, electrical power lines, communication lines, pipelines, roadsides and railroads, fencerows and around farm buildings, military bases, industrial, manufacturing and storage sites.

Among the woody plants controlled at the lower rate are:

alder	elderberry	pinus*
ash	elm*	poplar
aspen	hawthorn	red maple*
basswood	hickory	raspberry*
beech	hop-hornbeam	sassafras
birch	honey locust*	sumac
blackberry	locust	sycamore
buckthorn	maples	tamarack
cherry*	mulberry	wild rose
chokecherry*	oaks*	willow
cottonwood	poison oak	witchhazel
dogwood		

*These species may require treatment at the higher rate and may need to be retreated the following year, particularly if the original treatment was made at the lower rate.

Among the annual and perennial broadleaved weeds controlled are:

burdock	field bindweed	smooth bedstraw
chicory	lamb's-quarters	vetch
curled dock	ragweed	wild lettuce
dandelion	smartweed	

GENERAL USE PRECAUTIONS

- Do not apply this product in a manner inconsistent with the label.
- Do not apply Garlon 4 Herbicide directly to, or otherwise permit it to come into direct contact with desirable crops or other desirable broadleaved plants or non-target species and do not permit spray mists containing Garlon 4 Herbicide to drift onto them.

Avoid Spray Drift

Apply only when there is little or no hazard from spray drift. Small quantities of the spray, which may not be visible, may seriously injure susceptible crops and damage sensitive non-target habitat. A method must be used to detect air movement, lapse conditions or temperature inversions (stable air) such as the use of balloons or a continuous smoke column at or near the spray site or a smoke generator on the spray equipment. If the smoke develops into layers or indicates a potential for hazardous spray drift, DO NOT SPRAY.

PREHARVEST/GRAZING INTERVALS

Treated areas may be grazed by livestock or harvested for livestock feed provided that the following intervals are adhered to:

Grazing or harvesting green forage

- I. Lactating dairy animals
 - A. Up to 4.7 L/ha: withhold lactating dairy animals from consuming treated green forage for 14 days following treatment.
 - B. 4.7 to 8.0 L/ha: withhold lactating dairy animals from consuming treated forage for 60 days following treatment.
- II. Other livestock
 - A. Up to 4.7 L/ha: no grazing restriction.
 - B. 4.7 to 8.0 L/ha: do not graze or harvest green forage from treated area for 14 days following treatment.
- III. **NOTE:** If less than 25% of a grazed area is treated, there is no grazing restriction (for other livestock only).

Haying (harvesting of dried forage)

- I. Lactating dairy animals
 - A. For treatments up to 8.0 L/ha do not feed lactating dairy animals hay which had been harvested within 60 days of treatment.
- II. Other livestock
 - A. Up to 4.7 L/ha: do not harvest for 7 days following treatment.
 - B. 4.7 to 8.0 L/ha: do not harvest hay for 14 days following treatment.

Slaughter Withhold

Withdraw livestock from grazing treated grass or consumption of treated hay at least 3 days prior to slaughter.

DIRECTIONS FOR USE

General

For best results, applications of Garlon 4 Herbicide should be made when woody plants and weeds are actively growing. Use higher rates when hard-to-control species such as ash, chokecherry, elm, maple (other than vine or big leaf), oaks or pine are present. If lower rates are used on hard-to-control species, resprouting may occur and retreatment may be necessary the following year.

When using a drift control agent, follow the manufacturer's directions for the correct mixing sequence.

Ground Application

Consult with the appropriate provincial authorities about use permits and the establishment of buffer zones.

Use Precautions

Garlon 4 Herbicide is not registered for application to water surfaces including lakes, ponds and streams and is highly toxic to fish, aquatic plants and aquatic invertebrates. Do not overspray such areas. In order to reduce the hazard of drift to non-target plants, aquatic species or sensitive habitat, ensure that appropriate buffer zones are maintained and refer to the section Spray Drift Control.

Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and parks is minimal.

Do not use this product as a broadcast foliar spray in residential areas. Residential areas are defined as sites where bystanders including children may be potentially exposed during or after spraying. This includes around homes, schools, parks, playgrounds, playing fields, public buildings or any other areas where the general public including children could be exposed.

Do not use this product more than once per year.

Spray Drift Control

The potential for spray drift with ground broadcast applications can be reduced by:

- Apply a coarse spray using large droplet producing nozzle tips. Do not apply with cone-type nozzle or other nozzles that produce a fine droplet spray.
- Use of Radiarc[®] or Nalco-Trol[®] or an equivalent drift control system or additive.
- Keep the spray boom as low as possible.
- Use a spray pressure no greater than is required to obtain a proper spray pattern for adequate plant coverage.
- For ground application, do not apply Garlon 4 Herbicide when wind velocity and direction pose a risk of spray drift. Apply when wind speed is low. For aerial application, please refer to "Use Precautions" for appropriate buffer zones under "Restricted Use."
- If a spray thickening agent is used, follow all use directions and precautions on the product label. When using a power sprayer and handgun, direct sprays no higher than the tops of the target plants.

GROUND EQUIPMENT APPLICATIONS

Single Stem Foliar

For control of woody plants up to 2.5 m in height, use Garlon 4 Herbicide at rates of 4 to 8 L in enough water to make 1000 L of spray solution. Use the higher rate for late summer application when growth rates are reduced or when hard-to-control species are present. Spray brush to the point of runoff. Coverage should be thorough to wet all foliage. To minimize spray drift do not use pressures exceeding 1400 kPa at the spray nozzle. Direct the spray away from crops or desired non-target vegetation. Use of a drift control system is suggested to minimize spray drift. For woody plants exceeding 2.5 m in height cut and spray regrowth or use one of the basal application methods.

Low Volume Foliar

For control of woody plants up to 2.5 m in height use this technique with knapsack or backpack sprayers equipped with flat fan or solid cone nozzles. Power sprayers and handguns may also be used. For control of woody plants, mix 1 to 5 L of Garlon 4 Herbicide in enough water to make 100 L of spray solution. Use of a rate in the upper end of the recommended range is suggested for control of basal sprouting and root suckering species and for tall, dense brush. Direct the spray solution to thoroughly wet the foliage of the target plants but not to the point of runoff. Apply after full leafout, but before autumn colouration. For woody plants exceeding 2.5 m in height cut and spray regrowth or use one of the basal application methods.

Broadcast Foliar

For woody plant control and broadleaved weed control, make applications with equipment that will assure uniform coverage of the low spray volume applied. Do not use pressure exceeding 275 kPa at the spray nozzle. Apply any time during the growing season. Use the higher rates for late summer applications when growth rates are reduced or when hard-to-control species are present.

Woody Plant Control

Mix 4 to 8 L of Garlon 4 Herbicide in a minimum of 200 L of water per hectare to ensure uniform coverage.

Broadleaved Weed Control

Mix 1 to 4 L of Garlon 4 Herbicide in a minimum of 200 L of water per hectare to ensure uniform coverage.

BASAL BARK APPLICATIONS

General Information and Mixing Instructions

For control of woody plants in rights-of-way, military bases, industrial sites and non-crop areas, use Garlon 4 Herbicide in oil mixtures prepared and applied as described below. Use a diluent such as mineral oil or vegetable oil. Add Garlon 4 Herbicide to the required amount of oil in the mixing tank and mix thoroughly. When mixing with oils commercially formulated for basal bark herbicide applications, read and follow the use directions and precautions on the product label prepared by the oil's manufacturer.

Use the higher spray mixture concentration of Garlon 4 Herbicide when treating basal sprouting and root suckering species or when applying during the dormant season. Use low nozzle pressure to minimize spattering of spray solution off the target stem.

One-Sided Low Volume

To control woody plants with stems less than 15 cm in basal diameter, mix 20 to 30 L of Garlon 4 Herbicide in enough oil diluent to make 100 L of spray mixture. Apply with a knapsack or backpack sprayer using a flat fan or solid cone nozzle, or wick attachment. Low pump pressures of 70 to 210 kPa are recommended. Spray the basal parts of at least one side of each stem to thoroughly wet the lower 30 cm, including the root collar area, but not to the point of runoff. Apply at any time, including the winter months, except when snow or water prevent spraying at the ground line.

Streamline

To control woody plants, mix 20 to 30 L of Garlon 4 Herbicide in enough oil to make 100 L of spray mixture. Apply using a knapsack or backpack sprayer with a flat fan or solid cone nozzle, or wick attachment. Low pump pressures of 70 to 210 kPa are recommended. Apply sufficient spray to one side of stems less than 8 cm in basal diameter to form a band 5 cm in width. When the optimum amount of spray mixture is applied, the treated zone should widen to encircle the stem within approximately 30 minutes. Treat both sides of stems which are 8 to 15 cm in basal diameter. Direct the spray at a point on the stem that is approximately 30 to 50 cm above ground level. Optimal results are achieved when applications are made to young vigorously growing stems which have not developed the thicker bark characteristics of slower growing, understory trees in older stands. Apply at any time, including the winter months, except when snow or water prevents spraying at the desired height above ground level.

Cut Stump Treatment

To control resprouting of cut stumps of woody species, mix 20 to 30 L of Garlon 4 Herbicide in enough oil to make 100 L of spray mixture. Apply with a backpack or knapsack sprayer using a flat fan or a solid cone nozzle. Low pump pressures of 70 to 210 kPa are recommended. Thoroughly wet the outer portion of the cut surface adjacent to the cambium and the sides of the stumps, including the root collar area, but not to the point of runoff. Apply at any time, including the winter months, except when snow or water prevents spraying to the ground line. Care must be given to ensure treatment of all cut stems in a clump.

NOTE TO BUYER/USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR SPECIAL USE APPLICATIONS: The DIRECTIONS FOR USE for this product for the use(s) described below were developed by persons other than Dow AgroSciences Canada Inc. and are accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. Dow AgroSciences Canada Inc. itself makes no representation or warranty with respect to performance (efficacy) and/or crop tolerance (phytotoxicity) claims for this product when used on the crop(s) listed below.

Accordingly, the Buyer and User assume all liability arising, and agree to hold Dow AgroSciences Canada Inc. harmless from any claims based on efficacy and/or phytotoxicity in connection with the use(s) described below.

DIRECTIONS FOR USE

LOWBUSH BLUEBERRY SITE PREPARATION: Make one application per year. Apply as a directed ground spray. Direct contact of the spray with the blueberry plant will cause severe damage.

Woody plants controlled: alder, ash, birch, chokecherry[†], maples (red maple[†]), and poplar.

[†]may require higher rates and a repeat application the following year for control.

Application rate: Refer to the **Basal Bark Application** section of the main Garlon 4 Herbicide label for the application rate to use.

RESTRICTED USE

Garlon 4 Herbicide may be applied by air for control of susceptible woody plants growing on rights-of-way, industrial sites and military bases.

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 any way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

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

DIRECTIONS FOR USE**Aerial Application**

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. **Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment.**

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices

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 buffer zones should be observed.

Coarse sprays are less likely to drift, therefore, avoid combinations of pressure and nozzle type that will result in fine particles (mist). Do not apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift. Do not spray when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

Operator Precautions

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

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

The field crew and the mixer/loaders 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 and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

Product Specific Precautions

Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1-800-667-3852 or obtain technical advice from the distributor or your provincial agricultural representative. Application of this specific product must meet and/or conform to the precautions and application rates set out below.

ENVIRONMENTAL HAZARDS

This product is highly toxic to fish, aquatic plants and aquatic invertebrates and is not labelled for application to water surfaces. Keep out of wetlands, lakes, ponds, streams, rivers and wildlife habitats at the edge of bodies of water. Do not contaminate water by cleaning of equipment or disposal of wastes. The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (e.g., sandy soil) and/or where the depth to the water table is shallow.

Aerial application must only be done on the basis of provincial use permit. Buffer zones are specified to protect the sensitive areas as identified in the Environmental Hazards section of the product label.

Among the species controlled are:

alder	elderberry	pinus*
ash	elm*	poplar
aspen	hawthorn	red maple*
basswood	hickory	raspberry*
beech	hop-hornbeam	sassafras
birch	honey locust*	sumac
blackberry	locust	sycamore
buckthorn	maples	tamarack
cherry*	mulberry	wild rose
chokecherry*	oaks*	willow
cottonwood	poison oak	witchhazel
dogwood		

*These species may require treatment at the higher rate and may need to be retreated the following year, particularly if the original treatment was made at the lower rate.

DIRECTIONS FOR USE:

AERIAL APPLICATION

Garlon 4 Herbicide may be applied by either fixed or rotary wing aircraft for the control of susceptible woody plants growing on rights-of-way, industrial sites and military bases. Use 4 to 8 L of Garlon 4 Herbicide in a minimum spray volume of 30 L per hectare. Delivery systems suggested for use in applying Garlon 4 Herbicide by air include: booms equipped with coarse droplet producing conventional disc and core nozzles (such as D8-46 or D10-46), the Microfoil® boom or the Thru-Valve® boom. Ensure uniform and adequate coverage is achieved and that equipment has been accurately calibrated. Use higher application rates and volumes when plants are dense or under drought conditions.

USE PRECAUTIONS

Garlon 4 Herbicide is not registered for application to water surfaces including lakes, ponds and streams and is highly toxic to fish, aquatic plants and aquatic invertebrates. Do not overspray such areas. In order to reduce the hazard of drift to sensitive areas as identified in the Environmental Hazards section of the label, ensure that appropriate buffer zones are maintained as outlined below.

Use only closed mixing/loading systems for aerial application.

BUFFER ZONE TABLES FOR GARLON 4 HERBICIDE**A. BUFFER ZONES FROM AQUATIC HABITATS**

A buffer zone should be maintained to avoid overspray and drift into wetlands, lakes, ponds, streams, rivers, and wildlife habitats at the edge of bodies of water. Appropriate buffer zones, based on aircraft type, boom height, droplet spectrum, and rate of application, are as follows.

For application to rights-of-way, 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 (e.g., wind directions, low wind speed) and spray equipment (e.g., coarse droplet sizes, minimizing height above canopy), should be used. Applicators must, however, observe the specified buffer zones for protection of sensitive aquatic habitats.

APPLICATION BY FIXED WING AIRCRAFT**1) DROPLET SPECTRUM: COARSE (VMD 351 µm; range 163 to 595 µm)**

Rate of Application (L Garlon 4 Herbicide /ha)	Buffer Zones (m) from Aquatic Habitats (by Boom Height) †			
	≤ 5 m	> 5-10 m	>10-20 m	>20-30 m
4 L/ha	10	31	71	112
>4 to 6 L/ha	18	43	94	150
>6 to 8 L/ha	26	56	122	205

2) DROPLET SPECTRUM: VERY COARSE (VMD 461 µm; range 224 to 787 µm)

Rate of Application (L Garlon 4 Herbicide /ha)	Buffer Zones (m) from Aquatic Habitats (by Boom Height)			
	≤ 5 m	> 5-10 m	>10-20 m	>20-30 m
4 L/ha	5	19	54	91
>4 to 6 L/ha	10	28	69	116
>6 to 8 L/ha	14	35	82	142

† Boom height is the distance between the target vegetation (e.g. canopy) and the boom of the aircraft. The buffer zone is the distance between the sensitive habitat and the downwind edge of the spray boom. For example, these charts are read as follows: at an application rate of 6 L/ha, a boom height of 10 m, and a coarse droplet spectrum (VMD 351 µm), maintain a 17 m buffer zone between aquatic habitats (e.g., wetlands, lakes, ponds, streams, rivers, and wildlife habitats at the edge of bodies of water) and the downwind edge of the spray boom.

APPLICATION BY ROTARY AIRCRAFT**1) DROPLET SPECTRUM: COARSE (VMD 351 µm; range 163 to 595 µm)**

Rate of Application (L Garlon 4 Herbicide /ha)	Buffer Zones (m) from Aquatic Habitats (by Boom Height)			
	≤ 5 m	> 5-10 m	>10-20 m	>20-30 m
4 L/ha	5	13	47	86
>4 to 6 L/ha	8	17	59	108
>6 to 8 L/ha	12	20	72	144

2) DROPLET SPECTRUM: VERY COARSE (VMD 461 µm; range 224 to 787 µm)

Rate of Application (L Garlon 4 Herbicide /ha)	Buffer Zones (m) from Aquatic Habitats (by Boom Height)			
	≤ 5 m	> 5-10 m	>10-20 m	>20-30 m
4 L/ha	3	10	37	71
>4 to 6 L/ha	6	12	46	87
>6 to 8 L/ha	7	14	53	103

B. BUFFER ZONES FROM TERRESTRIAL HABITATS

A buffer zone should be maintained to avoid overspray and drift into sensitive terrestrial wildlife habitats. Consult the Provincial Pesticide Authority regarding the determination of these areas. Appropriate buffer zones, based on aircraft type, boom height, droplet spectrum, and rate of application, are as follows.

For application to rights-of-way, 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 (e.g., wind directions, low wind speed) and spray equipment (e.g., coarse droplet sizes, minimizing height above canopy), should be used. Applicators must, however, observe the specified buffer zones for protection of sensitive aquatic habitats.

APPLICATION BY FIXED WING AIRCRAFT**1) DROPLET SPECTRUM: COARSE (VMD 351 µm; range 163 to 595 µm)**

Rate of Application (L Garlon 4 Herbicide /ha)	Buffer Zones (m) from Terrestrial Habitats (by Boom Height)			
	≤ 5 m	> 5-10 m	>10-20 m	>20-30 m
4 L/ha	18	36	69	99
>4 to 6 L/ha	26	45	82	116
>6 to 8 L/ha	31	53	92	132

2) DROPLET SPECTRUM: VERY COARSE (VMD 461 µm; range 224 to 787 µm)

Rate of Application (L Garlon 4 Herbicide /ha)	Buffer Zones (m) from Terrestrial Habitats (by Boom Height)			
	≤ 5 m	> 5-10 m	>10-20 m	>20-30 m
4 L/ha	14	27	56	82
>4 to 6 L/ha	18	35	69	98
>6 to 8 L/ha	21	40	76	112

APPLICATION BY ROTARY AIRCRAFT**1) DROPLET SPECTRUM: COARSE (VMD 351 µm; range 163 to 595 µm)**

Rate of Application (L Garlon 4 Herbicide /ha)	Buffer Zones (m) from Terrestrial Habitats (by Boom Height)			
	≤ 5 m	> 5-10 m	>10-20 m	>20-30 m
4 L/ha	14	22	54	84
>4 to 6 L/ha	17	26	61	96
>6 to 8 L/ha	19	28	68	105

2) DROPLET SPECTRUM: VERY COARSE (VMD 461 µm; range 224 to 787 µm)

Rate of Application (L Garlon 4 Herbicide /ha)	Buffer Zones (m) from Terrestrial Habitats (by Boom Height)			
	≤ 5 m	> 5-10 m	>10-20 m	>20-30 m
4 L/ha	11	18	46	71
>4 to 6 L/ha	13	21	53	84
>6 to 8 L/ha	16	23	59	93

Spray Drift Control

Apply only when there is little or no hazard of spray drift since small quantities of product may injure susceptible crops and damage sensitive non-target habitats.

1. Do not apply Garlon 4 Herbicide when wind velocity and direction pose a risk of spray drift.
2. Do not apply when the wind speed is greater than 16 km/hr.
3. Garlon 4 Herbicide should not be applied at a boom height greater than 30 m above the target vegetation.
4. Aerial application should be made as close to the ground as possible while maintaining adequate coverage.
5. For helicopter application use pressures at the lower end of the range recommended by the nozzle manufacturer. For fixed wing application use pressures at the higher end of the range recommended by the nozzle manufacturer.
6. Use a boom length less than 75% of the wing span or rotor length.
7. Coarse spray droplets are less prone to drift, therefore avoid spray dispersal systems and settings that produce a large proportion of fine droplets in the spray pattern. Delivery systems suggested for use in applying Garlon 4 Herbicide by air include: booms equipped with coarse droplet producing conventional disc and core nozzles (such as D8-46 or D10-46), straight stream coreless nozzles (such as D6 or D8), and the Microfoil or Thru-Valve boom. Conventional disc and core nozzles should be oriented straight back or at an angle of less than 30° down.
8. Do not apply by air when an air temperature inversion exists. Such condition is characterized by little or no wind and an air temperature near the ground that is lower than at higher levels. A method must be used to detect air movement, lapse conditions or temperature inversions such as the use of balloons or a continuous smoke column at or near the site.

RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, Garlon 4 Herbicide is a Group 4 herbicide. Any weed population may contain or develop plants naturally resistant to Garlon 4 Herbicide and other Group 4 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 Garlon 4 Herbicide or other Group 4 herbicide 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.
- Herbicide use should be based on an IPM program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical), cultural, biological and other chemical control practices.
- Monitor treated weed populations for resistance development.
- Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment and planting clean seed.
- 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 Dow AgroSciences Canada Inc. at 1-800-667-3852.

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 any way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

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

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 clean-up of spills.

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 any way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.