

WARNING
KEEP OUT OF REACH OF CHILDREN



ADAMA

POLARIS® 450 HERBICIDE

GROUP 9 HERBICIDE

A non-selective herbicide for the control of many annual and perennial weeds in a wide range of situations

READ THE ATTACHED BOOKLET COMPLETELY BEFORE MIXING OR APPLYING

Active Ingredient:

Contains 450 g/L GLYPHOSATE as the isopropylamine salt in the form of a soluble concentrate

UN No:	3082
Class-primary	9
Packing group	III
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Glyphosate)
Marine pollutant:	YES
Batch number:	
Date of Manufacture:	NET CONTENTS: 1 L, 5 L, 20 L, 200 L, 110 L, 1000 L
Barcode to be inserted	

REFER TO BOOKLET FOR FULL LABEL INSTRUCTIONS.



WARNING

Harmful if inhaled Causes eye irritation. Toxic to aquatic organisms with long lasting effects.

HANDLING PRECAUTIONS

Keep out of reach of children. Do not eat, drink or smoke while using this product. Avoid breathing spray mist. Use only outdoors or in a well-ventilated area. Wash hands and exposed skin thoroughly after handling. Use personal protective equipment as specified in the personal protection section of this label. Avoid unintended release into the environment. Collect any spillages.

PCBU RESPONSIBILITIES

A PCBU with management or control of work using this substance must ensure that every worker who uses, handles, manufactures, or stores this hazardous substance (including hazardous waste) is, before the worker is allowed to carry out or supervise work involving those substances, provided with adequate information, training and instruction. This includes the use of personal protective equipment to be used to minimise risks to the health and safety of workers when carrying out work using this substance.

EQUIPMENT

A PCBU with management or control of work using this substance must ensure that equipment used to handle this substance retains the substance, without leakage, at all of the temperatures and pressures at which the equipment is to be used; and dispenses or applies the substance, without leakage, at a rate and in a manner that the equipment is designed for. The PCBU must ensure that the equipment is accompanied by documentation that is readily available and readily understandable about the use and maintenance of the equipment.

STORAGE

Store in the original, unopened container in a cool, dry place, out of direct sunlight and away from stockfeed or foodstuffs. There are requirements when storing this product in a workplace, relating to labelling, safety data sheets, stationary container systems, separation distances, secondary containment, emergency response plans, and signage; and in a place other than a workplace, relating to stationary container systems, separation distances, emergency response plans, secondary containment, and signage. Secondary containment and emergency response plans are required where greater than 1,000 L of this product are stored. Refer to the product SDS for further information.

SHELF LIFE

When stored appropriately this product should show no significant degradation for two years from the date of manufacture. Contact your supplier for further information about the use of any product that is older than this.

PERSONAL PROTECTION

When mixing or applying wear appropriate protective clothing including cotton overalls buttoned to the neck and wrist, impervious, elbow-length gloves, and eye protection. Remove protective clothing and wash hands, arms and face with soap and water before meals and after work.

SPILLAGE

Exclude all bystanders from the vicinity of the spill and prevent material from entering waterways. Wear appropriate protective clothing as in the personal protection section of this label to clean up spills. Absorb liquid spills with an inert material (such as vermiculite, earth, sand or synthetic absorbent substance) and place in waste containers. Wash area with water and alkaline detergent. Then absorb any remaining liquid with further inert material. Dispose of the waste safely in an approved landfill.

DISPOSAL

Container Disposal - Triple rinse empty container and add rinsate to spray tank. Submit clean, empty container to an Agrecovery® depot for recycling. Alternatively, puncture and bury in a suitable landfill. Avoid contamination of any water supply with product or empty container.

Product Disposal - Dispose of this product only by using according to the label or through the Agrecovery® Chemical Recovery service or other approved facility.

Do not burn product or container.

SAFETY DATA SHEET

A safety data sheet for this product is available at www.adama.com.

FIRST AID

If medical advice is needed, have product container or label at hand.

For advice, contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor immediately.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor if you feel unwell.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

CONDITIONS OF SALE

Adama New Zealand Limited will not accept any responsibility whatsoever and howsoever arising and whether for consequential loss or otherwise in connection with the supply of these goods other than the responsibility for the merchantable quality of the goods and such responsibilities mandatorily imposed by the Statutes applicable to the sale and supply of these goods. To the extent allowed by such Statutes the liability of Adama New Zealand Limited is limited to the replacement of the goods or (at the option of Adama New Zealand Limited) the refund of the price paid and is conditional upon a claim being made in writing and where possible sufficient part of the goods to enable proper examination being returned to Adama New Zealand Limited within thirty days of delivery.



Registered to and distributed by :
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Registered pursuant to the ACVM Act 1997, No. P7285
See www.foodsafety.govt.nz for registration conditions

Approved pursuant to the HSNO Act 1996, Approval No. HSR000227
See www.epa.govt.nz for approval controls

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EMERGENCY RESPONSE

(All hours)

Ring from anywhere in New Zealand
0800 734 607

In a Transport
Emergency
Phone 111
Police or Fire

GENERAL INFORMATION

POLARIS 450 HERBICIDE is a non-selective herbicide for use in agriculture and horticulture for use:

- before planting crops and trees
- in pasture renovation and reduced tillage systems
- for pre-harvest weed control
- in vineyards, orchards and market gardens
- in drains and waterways

POLARIS 450 HERBICIDE is water soluble and absorbed by green plant tissue and translocated throughout the plant including the root system to kill the entire plant. Plants should be actively growing, have clean foliage and not be suffering from drought stress at the time of spraying. Visible effects may not be apparent for 14 days depending on weather conditions, weed species and rate of application. Some perennial weeds may not show effects for 2-3 weeks. POLARIS 450 HERBICIDE degrades in the soil and has no residual weed control activity.

DIRECTIONS FOR USE

TAKE ALL REASONABLE STEPS TO ENSURE THAT THE SUBSTANCE DOES NOT CAUSE ANY SIGNIFICANT ADVERSE EFFECTS TO THE ENVIRONMENT BEYOND THE APPLICATION AREA.

Agricultural areas

May be used for the control of annual and perennial weeds as indicated in the "Weeds Controlled Table" prior to sowing any crop.

Minimum tillage

For total weed control prior to seeding in a reduced tillage system

Weeds should be actively growing and not under stress from frost, drought or waterlogging. In pastures, where only annual grass weeds are present, use 800 mL/ha to control seedlings and 2.4 L/ha to control mature annual grass weeds. For control of all annual and perennial pasture species (grass species, legumes and forage herb species), 2.4 L/ha with the addition of organo-silicone surfactant at 200 mL/100 L is recommended. For improved control of white clover, tank-mix with a dicamba 200 g a.i./L product at 1.5 L/ha. Do not plant legume crops within 28 days of applying dicamba. Where specific weed species listed in the Weeds Controlled table are present in the pasture, the rates in the Weeds Controlled table should be used to ensure effective control.

Pasture

Spot application to specific weeds

May be applied to control a wide range of weeds in pasture. It is non-selective and may damage or kill any plant in the spray area.

Pasture renovation

POLARIS 450 may be used to control existing pasture species (grass species, legumes, and forage herb species) prior to re-seeding pastures or establishing other crops. Where specific weed species listed in the Weeds Controlled table are present in pasture, the rates in the Weeds Controlled table should be used to ensure effective control.

Pre-harvest weed control

Wheat, barley and oats

Wheat, barley and oats – not for use on crops intended for human consumption.

Wheat, barley and oats – for animal feed (or other) - spray 7-12 days prior to harvest when the grain moisture is less than 30%. The maximum application rate for the preharvest weed control for wheat, barley and oats is 3.2 L product/ha. DO NOT harvest within 7 days after spraying. Do not spray under-sown crops. Do not spray crops that will be harvested for seed.

Orchards/vines***Citrus, apples, pears, stonefruit, kiwifruit, grapes***

Apply as a directed or shielded spray. For long-term control of annual weeds POLARIS 450 HERBICIDE may be tank-mixed with an approved herbicide for residual control. Do not apply to unprotected trees less than 3 years old. Do not allow spray or spray drift to contact any part of the stonefruit tree or green bark, suckers, buds, foliage or fruit of other trees. Spray before crops bud, sucker or bloom.

Market gardens***Applied before or after seeding, but prior to crop emergence***

Spraying can also be made prior to transplanting or as a post-harvest clean up. For longer-term control of seedling weeds it may be tank-mixed with an approved residual herbicide such as a simazine 500 g/L product in accordance with label recommendations.

Asparagus***Pre-crop emergence and post-harvest applications***

Apply prior to planting or crop emergence. Do not treat emerging spears. Application can also be made after removal of all spears, but before crop regrowth occurs. In established ferns, apply as a directed or shielded spray or with wiper equipment. Do not allow spray, spray drift or the wiper surface to contact any part of the asparagus plant.

Industrial and non-agricultural areas

Treat specific problem weeds as indicated in the “Weeds Controlled Table”. Do not allow spray drift.

Recreational areas***Lawns, turf, parks, reserves and ornamentals***

Apply before the sowing and planting of these areas. In mown areas, allow sufficient regrowth before spraying. Can also be sprayed around the base of established trees or shrubs, as a directed or shielded spray or with wiper equipment. Avoid spray drift or contact of the wiper surface with any part of the shrub or tree.

Drains and waterways

For best results ensure that 75% of the weed to be sprayed is above water level. Avoid treating silt-laden weeds. Following spraying do not submerge the weed as this will cause the herbicide to be washed off.

Forestry***For the control of grasses and weeds as listed in the “Weeds Controlled Table”***

Can be applied for weed control prior to burning or planting of forest or nursery or around already established trees. Do not allow spray drift or spray contact with foliage or green bark of desirable trees.

WEEDS CONTROLLED TABLE

WEED	BOOM/ AERIAL	HANDGUN	KNAPSACK	MISTBLOWER	WHEN TO APPLY
Annual weeds	0.8–1.6 L/ha	160 mL/100 L	25 mL/15 L	50 mL/10 L	Use the higher rate for larger weeds. For residual control may be tank-mixed with a simazine 500 g a.i./L product.
Australian sedge	5-7.2 L/ha (aerial)	800 mL/100 L	120 mL/15 L	240 mL/10 L	Apply from November to March. Burn or slash from 30 days after treatment.
Barberry	-	800	120 mL/15 L	240 mL/10 L	Apply from flowering to

WEED	BOOM/ AERIAL	HANDGUN	KNAPSACK	MISTBLOWER	WHEN TO APPLY
		mL/100 L			late fruit stage (Jan-Apr). Regrowth should be 1.5 m tall before spraying is carried out.
Barley grass	0.8 L/ha	160 mL/100 L	25 mL/15 L	50 mL/10 L	Apply when plants are at early seedhead stage (Sep-Dec). A simazine 500 g/L product may be tank-mixed for residual control.
Blackberry	7-16 L/ha	1.2 L/100 L	120 mL/15 L	240 mL/10 L	Apply from flowering fruiting stage (Dec-Apr), before frosts occur. For hard to kill blackberry, aerial application or no follow-up action planned, use the higher rate. Allow 6-10 weeks before slashing or burning.
Boxthorn		1 L/100 L	120 mL/15 L	-	Apply to actively growing plants (Nov-Apr). Ensure complete coverage of dense thickets. Do not use extra surfactant or treat salt damaged bushes.
Bracken/broom	7.2 L+ 250 mL Pulse /ha	800 mL + 250 mL Pulse/100 L	120 mL+ 30 mL Pulse /15 L	240 mL+ 20 mL Pulse /10 L	Apply after bracken fronds have unfurled (mid-Jan-June), but before fronds occur. For ground application to broom anytime, but for aerial application when broom is in full leaf.
Browntop	2.4 L/ha	400 mL/100 L	60 mL/15 L	120 mL/10 L	Apply when plants are 5-10 cm high. For taller plants, graze or burn and allow regrowth of 5-10 cm height before treatment.
Buddleia	7.2 L/ha	800 mL/100 L	120 mL/15 L	-	Apply using handgun anytime. Aerial-treat buddleia up to 2 m high (Feb-Apr) using spray volume of 200-300 L/ha.
Californian thistle	3.2 L/ha	800 mL/100 L	120 mL/15 L	240 mL/10 L	Apply after flow bud development. Retreatment and/or cropping or pasture improvement may be necessary to restrict re-establishment from seed. Mowing thistles 10 days after spraying may assist control.

WEED	BOOM/ AERIAL	HANDGUN	KNAPSACK	MISTBLOWER	WHEN TO APPLY
Cleavers	1.2 L/ha	400 mL/100 L	60 mL/15 L	120 mL/10 L	Spray actively growing plants after most reach early seedhead.
Couch	2.5-5 L/ha	800 mL/100 L	120 mL/15 L	240 mL/10 L	For suppression apply 2.4 L/ha in spring and repeat in autumn. For best results apply 3-5 L/ha in autumn to active growth of at least 10 cm where no previous cultivation has occurred for at least 6 months.
Docks	3-7 L/ha	800 mL/100 L	120 mL/15 L	-	Spray plants in spring or summer when actively growing and before seedheads have formed. Use the lower rate for seedlings and the higher rate for mature plants. In pasture situations boom spray prior to re-seeding or establishing crops to restrict seedling re-establishment. Under trees or vines may be tank-mixed with a simazine 500 g/L product for residual seedling control.
Floating sweet grass	5 L/ha	800 mL/100 L	120 mL/15 L	240 mL/10 L	Spray actively growing plants after most reach early seedhead. Spraying plants under drought stress may give reduced results.
Indian doab	7.2 L/ha	800 mL/100 L	120 mL/15 L	-	Apply at early seedhead stage before frosts occur.
Gorse	-	800 mL + 200 mL Pulse/100 L	-	-	Apply anytime ensuring complete coverage of plants not stressed by drought, grazing or previous herbicide treatment.
Kikuyu/Mercer grass	5 L/ha	800 mL/100 L	120 mL/15 L	240 mL/10 L	Apply at early seedhead stage. On dense infestations cut and spray the regrowth.
Nodding thistle	-	800 mL/100 L	120 mL/15 L	-	When applying by water ensure plants are actively growing (Oct-Apr) when at least 10 cm of the plant can be wiped. A double pass is recommended and follow-up with spot treatments if necessary.

WEED	BOOM/ AERIAL	HANDGUN	KNAPSACK	MISTBLOWER	WHEN TO APPLY
Old man's beard	-	0.8–1.6 L/100 L	240 mL/15 L	-	Apply Nov-Mar prior to first leaf browning. Use higher rates on stems over 1 cm in diameter. If complete coverage is not possible plants should be cut at ground level in winter and the regrowth sprayed with the higher rate when plants are at least 50 cm long (March).
Pampas grass/toetoe	-	800 mL/100 L	120 mL/15 L	-	Spray spring-autumn. Reduced control may result if plants are in flower at the time of spraying. Ensure complete coverage.
Paspalum	3-5 L/ha	800 mL/100 L	120 mL/15 L	240 mL/10 L	Spray at low rate if plants are at early seedhead stage. Use 5 L/ha on mature vegetative plants, before onset of frosts.
Potato (self set)	2.4 L/ha	400 mL/100 L	60 mL/15 L	120 mL/10 L	Spray actively growing plants after most reach early seedhead.
Prairie grass	1.2 L/ha	160 mL/100 L	25 mL/15 L	-	Apply at early seedhead stage.
Ragwort	5 L/ha	800 mL/100 L	120 mL/15 L	-	Spray when actively growing and ensure there is sufficient leaf area for herbicide uptake. When applying by wiper use on plants 10-15 cm above the pasture. For best results a double pass is recommended with a follow-up spot treatment if necessary. Caution: Ragwort becomes more palatable after treatment. Keep stock away from treated areas until plants brown-off.
Ratstail	4 L/ha	800 mL/100 L	120 mL/15 L	-	Apply at a spray volume of 200 L/ha in autumn. In dry conditions delay spraying until sufficient green foliage is present.
Rautahi (cutty grass)	5 L/ha	800 mL/100 L	120 mL/15 L	240 mL/10 L	Spray to actively growing plants from Jan-Mar. Burning or slashing may begin 30 days after treatment following brown-off.

WEED	BOOM/ AERIAL	HANDGUN	KNAPSACK	MISTBLOWER	WHEN TO APPLY
Rushes	5 L/ha	800 mL/100 L	120 mL/15 L	240 mL/10 L	Burning or slashing may begin 30 days after treatment following brown-off. Wiper application to be carried out in Nov-May.
Ring fern	0.8–2.4 L/ha	240 mL/100 L	40 mL/15 L	-	For effective control apply 2.4 L/ha. For pasture manipulation, apply 0.8–1.6 L/ha from Dec/Apr. Use higher rates for dense infestations. Burn 4–6 weeks after treatment.
Ryegrass	1.2–2.4 L + 150 mL Pulse/ha	400 mL + 100 mL Pulse/100 L	60 mL + 30 mL Pulse /15 L	-	Spray to actively growing plants 3–10 cm high. Use lower rate from (perennial) Jan-Jul when cultivation is to follow spraying and the higher rate Aug-Dec.
Sweet brier	9.6 L + 250 mL Pulse/ha	800 mL + 200 mL Pulse/100 L	120 mL + 30 mL Pulse /15 L	-	Spray when plant is in late flowering to early leaf yellowing stage. Ensure full coverage.
Tall fescue	5 L/ha	800 mL/100 L	120 mL/15 L	240 mL/10 L	Apply Jan-Mar to active growth.
Willow	7 L/ha	800 mL/100 L	-	-	Apply before leaf fall begins (Jan-Apr). Total spray coverage is essential for best results.
Yarrow	2.5–5 L/ha	-	-	-	Apply to plant with 5–10 cm of leaf. For best results cultivate 10 days after treatment. Use the low rate when a crop to be drilled is competitive to yarrow and higher rate when it is a poor competitor.

It is an offence for users of this product to cause residues exceeding the relevant MRL in the Food Notice: Maximum Residues Levels for Agricultural Compounds.

WITHHOLDING PERIODS

**Wheat, barley and oat grain:
For Human consumption**

Only to be used prior to sowing.

**Wheat, barley and oat grain:
For animal feed (or other)**

7 days.

ANIMAL SAFETY

After application of POLARIS 450 HERBICIDE where ragwort and other poisonous weeds are present stock should be withheld from the treated area until these plants brown out. In all other situations it is recommended that grazing or cultivating is delayed for 1 day after treatment of annual weeds or 3 days if perennial weeds are present to ensure absorption of POLARIS 450 HERBICIDE.

APPLICATION METHOD

POLARIS 450 HERBICIDE must only be applied in equipment made from stainless steel, fibreglass or plastic. All spray equipment, including pumps, spray tanks, lines and nozzles and landing gear of aircraft, should be thoroughly washed with water after each spraying day.

Boom equipment: Application can be made in spray volumes up to 200 L/ha using fan nozzles at pressures in the range of 200-280 kPa. Boom height should be set, so a double overlap of nozzle pattern is achieved at the top of the target plants.

Aerial equipment: Applicable to forest and non-crop areas only. Can be applied by aircraft in spray volumes of up to 100 L/ha. Increase spray volume in hilly terrain to ensure maximum target contact. Do not use in intensive horticultural cropping area.

Handgun and Knapsack: Ensure a fine spray pattern to give complete coverage. For handguns, use pressures of 1,000–2,000 kPa and No. 4 and No. 6 spray tips.

MIXING

Half fill the clean spray tank with clean water. Add the required amount of POLARIS 450 HERBICIDE and mix well before adding the remaining water. If surfactant is required, add this last to minimise foaming. Agitate well before spraying. When tank-mixing with other chemicals, add POLARIS 450 HERBICIDE after other water-soluble concentrates, but before suspension concentrates such as a simazine 500 g a.i./L product. Soil particles and hard water containing calcium salts deactivate POLARIS 450 HERBICIDE. If hard water cannot be avoided, the addition of a surfactant is recommended.

RAINFALL

The addition of an organo-silicone surfactant will increase rainfastness.

COMPATIBILITY

POLARIS 450 HERBICIDE is compatible with commonly used herbicides.

RESISTANCE MANAGEMENT

POLARIS 450 HERBICIDE contains the GROUP 9 glycine herbicide, glyphosate. Do not use another product containing a herbicide in the same group in conjunction with POLARIS 450 HERBICIDE and where possible alternate the types of herbicides used within any one paddock over time. Herbicides from different group codes should either be used alternately or mixed together to prevent the numbers of resistant individuals building up. Since the occurrence of resistant weeds is difficult to detect prior to use, Adama New Zealand Ltd accepts no liability for losses that may result from the failure of this product to control resistant weeds.

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