

POISON

KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Leopard® Herbicide



ADAMA
ESSENTIALS

ACTIVE CONSTITUENT:

100 g/L QUIZALOFOP-P-ETHYL

SOLVENT: 812 g/L HYDROCARBON LIQUID

GROUP A HERBICIDE

For the control of certain grass weeds in broadleaf crops as specified in the Directions for Use table.

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CONTENTS: 5 L, 10 L, 20 L, 110 L, 1000 L

DIRECTIONS FOR USE:

RESTRAINTS: DO NOT apply to crops that are stressed by any cause (such as severe cold weather, disease, drought or waterlogging).
DO NOT apply to weeds that are stressed by any cause (such as weather conditions, drought, waterlogging) or not actively growing. Grass weeds under stress frequently become less susceptible to herbicide activity. This may result in an incomplete kill or suppression of weeds only.
DO NOT apply under conditions of high temperature and low humidity.
DO NOT apply if rainfall is expected within 3 hours.
DO NOT apply less than 50 L prepared spray/ha.

BOOM SPRAYING: WINTER GROWING WEEDS:

CROP	WEEDS CONTROLLED	WEEDS STAGE	RATE/ha	WITHHOLDING PERIOD		CRITICAL COMMENTS
				HARVEST	GRAZING	
Beetroot Cabbage Canola Carrots Cauliflower Chickpeas Clover & Sub Clover Pastures Cucumbers* Faba Beans Field Peas Honey Dew Melons* Lentils Lucerne Lupins Medic Pasture Mung Beans Navy Beans Onions Potatoes Pumpkins* Radish Tomatoes Vetch	Annual Ryegrass (<i>Lolium rigidum</i>), Brome Grasses (<i>Bromus</i> spp.)	3 leaf to early tillering	300 mL or 350 mL	14 days 9 weeks 11 weeks 10 weeks 14 days	– 4 weeks –	Apply when weeds are actively growing. Use higher rate under heavy weed pressure, and/or when weeds have commenced tillering.†
	Barley Grass (<i>Hordeum</i> spp.), Volunteer Barley, Volunteer Wheat	3 leaf to early tillering	250 mL	14 days 12 weeks –	– 4 weeks 14 days	Apply when weeds are actively growing.†
	Wild Oats (<i>Avena</i> spp.)	3 leaf to mid-tillering	125 mL or 250 mL	14 days 12 weeks 9 weeks 9 weeks	– 4 weeks 4 weeks –	Apply when weeds are actively growing. Use the lower rate only under light weed pressure and/or when weeds are at the 1-3 leaf stage. Use higher rate under heavy weed pressure and/or when weeds are tillering. The higher rate will give better or more reliable control.†
				12 weeks – 6 weeks – 12 weeks 12 weeks 18 weeks 10 weeks 9 weeks 21 days 4 weeks 12 weeks	4 weeks 4 weeks 4 weeks 14 days 4 weeks 4 weeks – – – – – 4 weeks	

† ALWAYS ADD A SURFACTANT/WETTING AGENT AT THE RECOMMENDED RATE – SEE SECTION ON “USE OF SURFACTANT/WETTING AGENT” FOR DETAILS.

• IMPORTANT DO NOT APPLY LEOPARD BEFORE THE FIVE TRUE LEAF STAGE OF THE CROP.

BOOM SPRAYING: SUMMER GROWING WEEDS:

CROP	WEEDS CONTROLLED	WEEDS STAGE	RATE/ha	WITHHOLDING PERIOD		CRITICAL COMMENTS
				HARVEST	GRAZING	
Beetroot Cabbage Cauliflower Carrots Cucumbers* Green Beans Honey Dew Melons* Lucerne Mung Beans Navy Beans Onions Peanuts Potatoes Pineapples Pumpkins* Radish Soybeans Sunflower Tomatoes	Awnless Barnyard Grass (<i>Echinochloa colona</i>), Barnyard Grass (<i>Echinochloa crus-galli</i>)	3 leaf to early tillering	500 mL or 750 mL	14 days 9 weeks 14 days 10 weeks 14 days 5 weeks	– – – – – 4 weeks	Apply when weeds are actively growing. Use higher rate under heavy weed pressure, and/or when weeds have commenced tillering. [†]
	Couch Grass (<i>Cynodon dactylon</i>)	2-4 leaf seedling	500 mL	9 weeks – 12 weeks 12 weeks 18 weeks 11 weeks	– 4 weeks 4 weeks 4 weeks – 11 weeks	Apply when weeds are actively growing. This rate will only control seedling Couch Grass which is less than 2 months old and established from seed. [†]
	Dinebra (<i>Dinebra retroflexa</i>)	3 leaf to early tillering	250 mL or 375 mL	10 weeks 7 days 9 weeks 21 days	– – – –	Apply when weeds are actively growing. Use higher rate under heavy weed pressure, and/or when weeds have commenced tillering. [†]
	Crowsfoot Grass (<i>Eleusine Indica</i>)	2 leaf to early tillering	500 mL	12 weeks 9 weeks 4 weeks	– 4 weeks 11 weeks	Apply when weeds are actively growing. [†]
	Foxtail Millet (<i>Setaria Italica</i>)	2 leaf to early tillering	250 mL or 500 mL			Apply when weeds are actively growing. Use higher rate under heavy weed pressure, and/or when weeds have commenced tillering. [†]
	Columbus Grass (<i>Sorghum xalmum</i>), Johnson Grass (<i>Sorghum halepense</i>), Liverseed Grass (<i>Urochloa panicoides</i>)	2 leaf to 3 tiller	500 mL or 750 mL			
	Rhodes Grass (<i>Chloris gayana</i>), Stink Grass (<i>Eragrostis cilianensis</i>)	3 leaf to early tillering	250 mL or 500 mL			
	Queensland Blue Grass (<i>Dichanthium sericeum</i>)	3 leaf to early tillering	500 mL			Apply when weeds are actively growing. [†]
	Summer Grass (<i>Digitaria ciliaris</i>)	3 leaf to early tillering	500 mL or 1000 mL			Apply when weeds are actively growing. Use higher rate under heavy weed pressure, and/or when weeds have commenced tillering. [†]

[†]ALWAYS ADD A SURFACTANT/WETTING AGENT AT THE RECOMMENDED RATE – SEE SECTION ON “USE OF SURFACTANT/WETTING AGENT” FOR DETAILS.

- IMPORTANT DO NOT APPLY LEOPARD BEFORE THE FIVE TRUE LEAF STAGE OF THE CROP.

HAND GUN SPRAYING:

CROP	WEEDS CONTROLLED	WEEDS STAGE	RATE/ha	WITHHOLDING PERIOD		CRITICAL COMMENTS			
				HARVEST	GRAZING				
Beetroot	Awnless Barnyard Grass (<i>Echinochloa colona</i>), Crowsfoot Grass (<i>Eleusine Indica</i>)	3 leaf to early tillering	125 mL	14 days	–	Apply when weeds are actively growing. Use a minimum of 800 L of prepared spray/ha. Thoroughly wet target weeds (especially well established clumps) without causing run off. Repeated sprays may be necessary for perennial grass species.			
Cabbage				9 weeks	–				
Cauliflower				14 days	–				
Canola				11 weeks	4 weeks				
Carrots				10 weeks	–				
Chickpeas				12 weeks	4 weeks				
Clover & Sub Clover Pasture				–	14 days				
Cucumbers*				Paspalum (<i>Paspalum dilatatum</i>)	Seedling to established clumps		14 days	–	Always add a surfactant/wetting agent at the recommended rate – see section on “Use of Surfactant/Wetting agent” for details.
Faba Beans							12 weeks	4 weeks	
Field Peas				Johnson Grass (<i>Sorghum halepense</i>)	Seedling 2 leaf to early tillering		9 weeks	4 weeks	
Grapes	–	–							
Green Beans	5 weeks	4 weeks							
Honey Dew Melons*	9 weeks	–							
Lentils	Kikuyu (<i>Pennisetum clandestinum</i>)	Rhizome 2 leaf to early tillering	250 mL	12 weeks	4 weeks				
Lucerne				–	4 weeks				
Lupins				6 weeks	4 weeks				
Medic Pasture				–	14 days				
Mung Beans				12 weeks	4 weeks				
Navy Beans				12 weeks	4 weeks				
Non crop				–	–				
Onions				18 weeks	–				
Peanuts				11 weeks	11 weeks				
Pineapples				7 days	–				
Potatoes	10 weeks	–							
Pumpkins*	9 weeks	–							
Radish	21 days	–							
Soybeans	12 weeks	4 weeks							
Sunflowers	9 weeks	11 weeks							
Tomatoes	4 weeks	–							
Vetch	12 weeks	4 weeks							

† ALWAYS ADD A SURFACTANT/WETTING AGENT AT THE RECOMMENDED RATE – SEE SECTION ON “USE OF SURFACTANT/WETTING AGENT” FOR DETAILS.

• IMPORTANT DO NOT APPLY LEOPARD BEFORE THE FIVE TRUE LEAF STAGE OF THE CROP.

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.

WITHHOLDING PERIODS:

HARVEST:

BEETROOT, CAULIFLOWER, CUCUMBERS:

DO NOT HARVEST FOR 14 DAYS AFTER APPLICATION.

CABBAGE, FIELD PEAS, HONEY DEW MELON, PUMPKINS, SUNFLOWERS:

DO NOT HARVEST FOR 9 WEEKS AFTER APPLICATION.

CARROTS, POTATOES:

DO NOT HARVEST FOR 10 WEEKS AFTER APPLICATION.

CHICKPEAS, FABA BEANS, LENTILS, MUNG BEANS, NAVY BEANS, SOYBEANS, VETCH:

DO NOT HARVEST FOR 12 WEEKS AFTER APPLICATION.

CANOLA, PEANUTS:

DO NOT HARVEST FOR 11 WEEKS AFTER APPLICATION.

GREEN BEANS:

DO NOT HARVEST FOR 5 WEEKS AFTER APPLICATION.

GRAPES:

NOT REQUIRED WHEN USED AS DIRECTED.

LUPINS:

DO NOT HARVEST FOR 6 WEEKS AFTER APPLICATION.

ONIONS:

DO NOT HARVEST FOR 18 WEEKS AFTER APPLICATION.

PINEAPPLES:

DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.

RADISH:

DO NOT HARVEST FOR 21 DAYS AFTER APPLICATION.

TOMATOES:

DO NOT HARVEST FOR 4 WEEKS AFTER APPLICATION.

GRAZING:

CANOLA, CHICKPEAS, FABA BEANS, FIELD PEAS, GREEN BEANS, LENTILS, LUCERNE, LUPINS, MUNG BEANS, NAVY BEANS, SOYBEANS, VETCH:

DO NOT GRAZE OR CUT FOR STOCK FEED FOR 4 WEEKS AFTER APPLICATION.

CLOVER, MEDICS, PASTURES (EXCEPT LUCERNE), SUB-CLOVER:

DO NOT GRAZE OR CUT FOR STOCK FEED FOR 14 DAYS AFTER APPLICATION.

PEANUTS, SUNFLOWERS:

DO NOT GRAZE OR CUT FOR STOCK FEED FOR 11 WEEKS AFTER APPLICATION.

GENERAL INSTRUCTIONS

LEOPARD is an emulsifiable concentrate herbicide used post emergence for the control of certain grass weeds in specified broadleaf crops.

LEOPARD is a systemic herbicide, which is rapidly absorbed and readily translocates from the treated foliage to the root system and growing points of the plant. Applications made to grass weeds stressed due to insufficient moisture or cold temperatures may result in unsatisfactory control.

RESISTANT WEEDS WARNING

LEOPARD® herbicide is a member of the Aryloxyphenoxypropionates 'Fop' group of herbicides. LEOPARD herbicide has the Inhibitors of acetyl coA carboxylase mode of action. For weed resistance management LEOPARD is a Group A Herbicide. Some naturally occurring weed biotypes resistant to LEOPARD herbicide and other Group A herbicides may exist through normal genetic variability in any weed population. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds will not be controlled by LEOPARD herbicide or other Group A herbicides.

Since the occurrence of resistant weeds is difficult to detect prior to use, Adama Australia Pty. Ltd. accepts no liability for any losses that may result from the failure of LEOPARD herbicide to control resistant weeds.

Strategies to minimise the risk of herbicide resistance are available. Consult your farm chemical supplier, consultant, local Department of Agriculture or Primary Industries, or local Adama Representative.

TIME OF APPLICATION

For maximum benefit, weeds should be sprayed when young and actively growing. Application may be made at any stage of crop growth (except to cucurbit crops), but sufficient time must be allowed for the prescribed withholding period to expire before harvest and/or grazing or cutting for stockfeed.

Important: DO NOT apply LEOPARD to cucurbit crops before the five true leaf stage.

SPRAY PREPARATION

LEOPARD is an emulsifiable concentrate to be mixed with water and applied as a spray. Add the amount of LEOPARD directly to the spray tank and mix well.

If tank mixing with Benomyl or Mancozeb, add these to the spray tank and mix thoroughly prior to adding LEOPARD.

USE OF A SURFACTANT/WETTING

LEOPARD may be used with either of the following adjuvant systems:

- 1) A non-ionic surfactant (1000 g ac/L strength) at 200 mL/100 L of final spray volume (i.e. 0.2% volume/volume).
- 2) A non-ionic surfactant (1000 g ac/L strength) at 0.1% v/v and a mineral spray oil at 1% v/v.

For LEOPARD and LEOPARD tank-mixes with Sertin* 186EC, Sertin* Plus and Select* the recommended mixture is 100 mL non-ionic surfactant + 1 L DC-Trate* Spray Oil per 100 litres of final spray volume. This adjuvant system provides a more robust treatment than a surfactant only treatment and is strongly recommended.

DO NOT use the surfactant + mineral oil adjuvant system on vegetable crops, use a surfactant only. DO NOT use a Spray Oil alone, a surfactant must always be added. DO NOT use spray oils of crop origin (eg Codacide oil, Synetrol oil) as spray adjuvants.

COMPATIBILITIES

LEOPARD is compatible with the insecticides Ballistic®, Le Mat*, Dimethoate, endosulfan, the fungicides Benomyl and Mancozeb and the herbicides Brodal* and Victory® when using the surfactant only adjuvant system.

LEOPARD is compatible with Sertin* 186EC, Sertin* Plus and Select* when using the surfactant plus spray oil adjuvant system. When tank mixing LEOPARD and broadleaf herbicides DO NOT use a spray oil, use a surfactant only. Application of the LEOPARD tank mix may result in crop effects. The effect is temporary and usually appears as yellow or white bleaching on the leaves. New growth and subsequent yield, however, will not be affected.

DO NOT add crop oil to tank mixtures of LEOPARD /Brodal. To minimise crop effects: Apply LEOPARD a minimum of 5 days prior to Brodal application or a minimum 10 days after Brodal application (14-21 days if weeds have been stressed).

GROUND SPRAYING

Use sprayers with flat fan or hollow cone nozzles at 210-350 kPa to give an even distribution of droplets with no less than 50% of the spray volume in the 150-300 micron range. 110° flat fan nozzles are preferred. Use between 50 and 100 litres of prepared spray/ha, the higher spray volume gives more reliable results.

If weeds are large and the crop canopy is dense, increase the volume to 150 litres prepared spray/ha.

For proper spray coverage adjust the boom and nozzle height according to the specifications listed by the nozzle manufacturer.

Ensure the spray is evenly distributed and a double overlap spray pattern is obtained. Avoid overlapping boomspray widths and shut off spray booms while starting, turning, slowing or stopping.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT apply under weather conditions or from spraying equipment, that may cause spray to drift onto nearby or susceptible plants/crops, cropping lands or pastures. DO NOT plant cereal crops into the treated area for a period of 18 weeks after application of LEOPARD.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

DO NOT contaminate streams, rivers or waterways with the chemical or used containers.

SPRAYER CLEANUP

Thoroughly clean all traces of LEOPARD from application equipment immediately after use. Flush tank, pump, hoses and boom with several changes of water after removing nozzle tips and screens (clean those parts separately). Failure to thoroughly clean the equipment may result in injury to subsequently sprayed cereal and grass crops.

If spray equipment has previously been used for the application of sulfonylurea herbicides e.g. Ally*, Lynx® WG, Harmony* M, Glean*, Tackle®, Logran*, Lone-Star®, Amber Post*, ensure that the recommended sprayer cleanup procedure for the product previously sprayed has been followed before using the equipment for the application of LEOPARD.

STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight. Triple rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return containers to recycler or designated collection point. If not recycling, break, crush or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or territory government regulations. DO NOT burn empty containers or product.

Envirodrum Micro Matic Valve (110 L)

Store the original sealed Envirodrum in a cool well-ventilated area. DO NOT store for prolonged periods in direct sunlight. DO NOT tamper with the Micro Matic valve or the security seal. DO NOT contaminate the Envirodrum with water or any foreign matter. After each use of the product, please ensure that the Micro Matic coupler delivery system and hoses are disconnected, triple rinsed with clean water and drained accordingly. When the contents of the Envirodrum have been used, please return the Envirodrum to the point of purchase. The Envirodrum remains the property of Adama Australia Pty. Ltd.

1000 L

Store in the closed, original container in a cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight. Storage must be secure so that contents cannot be tampered with. All locks and/or seals must be in order. If locks or seals are broken prior to initial use then the integrity of this product cannot be assured. If this occurs Adama Australia Pty. Ltd. should be advised immediately. This minibulk container is reusable and remains the property of Adama Australia Pty. Ltd. DO NOT rinse empty container. Empty contents fully into application equipment. Close all valves and return to the point of supply for refill or storage. No other liquid, solid or pesticide product should be put into it. When empty return to Adama Australia Pty. Ltd. for cleaning, relabelling and refilling.

SAFETY DIRECTIONS

Will irritate the eyes and skin. When preparing spray wear cotton overalls buttoned to the neck and wrist and washable hat, elbow-length PVC gloves and face shield or goggles. If product in eyes, wash out immediately with water. Wash hands after use. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131126. If swallowed, DO NOT induce vomiting. Give a glass of water.

MATERIAL SAFETY DATA SHEET

Additional information is listed in the material safety data sheet (MSDS). A material safety data sheet for LEOPARD is available from Adama on request. Call Customer Service on (02) 9431 7800.

CONDITIONS OF SALE: The use of LEOPARD® Herbicide being beyond the control of the manufacturer, no warranty expressed or implied is given by Adama Australia Pty. Ltd. regarding its suitability, fitness or efficiency for any purpose for which it is used by the buyer, whether in accordance with the directions or not and Adama Australia Pty. Ltd. accepts no responsibility for any consequence whatsoever resulting from the use of this product.

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ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, LIQUID, N.O.S.
PACKING GROUP III
HAZCHEM CODE 2X



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Batch No.

Date of Manufacture