Product Name: KELPIE CHISEL 450 HERBICIDE

APVMA Approval No: 67370/141736



Label Name:	KELPIE CHISEL 450 HERBICIDE
Signal Headings:	CAUTION
	KEEP OUT OF REACH OF CHILDREN
	READ SAFETY DIRECTIONS BEFORE OPENING OR USING
Constituent	ACTIVE CONSTITUENT: 450 g/L GLYPHOSATE PRESENT AS THE ISOPROPYLAMINE
Statements:	SALT ALSO CONTAINS: 100 g/L POLYETHANOXY (15) TALLOW AMINE
	ALSO CONTAINS. 100 9/ET OLTETTIANOXT (13) TALLOW AMINE
Mode of Action:	GROUP 9 HERBICIDE
	TIENDIDE
Statement of Claims:	A non-selective water soluble herbicide for control of a wide range of annual and perennial
	weeds in a wide variety of situations as per the Directions for Use Table.
Net Contents:	5 L - 1000 L

Restraints:

DO NOT disturb weeds by cultivation, sowing or grazing for 1 day after treatment of annual weeds and 7 days for perennial weeds except where stated.

DO NOT use dirty or hard water when mixing.

DO NOT apply if rain is expected in the next 6 hours.

DO NOT apply to plants suffering from stress.

SPRAY DRIFT RESTRAINTS

Specific definitions for terms used in this section of the label can be found at apvma.gov.au/spraydrift

DO NOT allow bystanders to come into contact with the spray cloud.

DO NOT apply in a manner that may cause an unacceptable impact to native vegetation, agricultural crops, landscaped gardens and aquaculture production, or cause contamination of plant or livestock commodities, outside the application site from spray drift. Wherever possible, correctly use application equipment designed to reduce spray drift and apply when the wind direction is away from these sensitive areas.

DO NOT apply unless the wind speed is between 3 and 20 kilometres per hour at the application site during the time of application.

DO NOT apply if there are hazardous surface temperature inversion conditions present at the application site during the time of application. Surface temperature inversion conditions exist most evenings one to two hours before sunset and persist until one to two hours after sunrise.

Directions for Use:

This section contains file attachment.

Other Limitations:

Withholding Periods: NOT REQUIRED WHEN USED AS DIRECTED.

Trade Advice:

General Instructions: This section contains file attachment.

Resistance Warning: RESISTANT WEEDS WARNING

GROUP 9 HERBICIDE

KELPIE CHISEL 450 Herbicide is a member of the glycine group of herbicides. KELPIE CHISEL 450 Herbicide has the EPSP synthase inhibitor mode of action. For weed resistance management KELPIE CHISEL 450 Herbicide is a Group 9 Herbicide. Some naturally occurring weed biotypes resistant to GLYPHOSATE and other Group 9 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 KELPIE CHISEL 450 HERBICIDE or other Group 9 Herbicides.

Since the occurrence of resistant weeds is difficult to detect prior to use, Sinochem Australia Pty Ltd accepts no liability for any losses that may result from the failure of KELPIE CHISEL 450 HERBICIDE to control resistant weeds. However, resistance should not be assumed without first viewing the method of application, the coverage and the timing of application.

Precautions:

Protections: PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

DO NOT contaminate wetlands or watercourses with the product or used containers.

DO NOT apply to weeds growing in or over water.

DO NOT spray across open bodies of water, and DO NOT allow spray to enter water.

DO NOT allow water to return to dry channels within 4 days of application.

PROTECTION OF CROP, NATIVE AND OTHER NON-TARGET PLANTS.

Avoid contact with foliage, green stems or fruit crops, desirable plants and trees, since severe injury or destruction may result.

DO NOT apply under weather conditions or from spraying equipment that may cause spray to drift onto nearby susceptible plants/crops, cropping lands or pastures.

Storage and Disposal:

STORAGE AND DISPOSAL

Store in the closed, original container in a dry, cool, well-ventilated area. Do not store for prolonged periods in direct sunlight.

Non-refillable containers

Triple-rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean 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.

Refillable containers

Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

Safety Directions:

SAFETY DIRECTIONS

Product will irritate the eyes and skin. Avoid contact with eyes and skin. When preparing product for use, wear elbow-length PVC gloves and face shield or goggles. When using controlled droplet applicator wear protective waterproof clothing and impervious footwear. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use wash gloves, face shield or goggles and contaminated clothing.

First Aid Instructions:

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre.

Phone Australia 13 11 26.

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DIRECTIONS FOR USE

SITUATION	WEEDS	BOOM SPRAY	STATE	CRITICAL COMMENTS
SHUATION	CONTROLLED	RATE	SIAIE	CRITICAL COMMENTS
		VOL/Ha		
SOUTHERN AUSTRALIA Prior to sowing a crop or pasture	Barley Grass, Brome Grass, Volunteer Cereals, Wild Oats	400-800 mL pre tillering 800 mL-1.0 L post tillering	NSW, VIC, SA, WA only	Treat only actively growing weeds not under stress from low moisture, frost, cold, disease or waterlogging. If heavy grazing has occurred allow regrowth to 6-8 cm before spraying and use the
with full soil disturbance by cultivation or sowing with a tyned implement	Annual Phalaris, Annual Ryegrass, Silvergrass, Winter Grass	800 mL-1.0 L pre tillering 1.0-1.2 L post tillering	•	higher rate. RATE SELECTION Increase to higher rates late in the season or when treating under cold/overcast
	Capeweed, Doublegee (Spiny Emex, ThreeCornered Jack), Calomba Daisy	400-800 mL less than 8cm diameter/height 800 mL-1.2 L greater than 12 cm dia/height		conditions. FULL DISTURBANCE with a cultivation or sowing with a tyned implement may start one day after treatment (7 days if Dock, Phalaris, Skeleton Weed, Soursob, or Sorrel are present) and should occur
	Amsinckia, Fumitory, Paterson's Curse, Saffron Thistle, Scotch Thistle, Spear Thistle, Variegated Thistle, Volunteer Lupins, Wild Turnip	800 mL-1.0 L less than 12cm diameter 1.0-1.2 L greater than 12 cm diameter		within 21 days after treatment. When treating light infestations or seedling annual grasses (pre-tillering) and annual broadleaved weeds (less than 8 cm diameter/height), cultivation or sowing may start 6 hours after treatment and should occur within 21 days.
	Dock (seedling)	800 mL-1.2 L		CROP ESTABLISHMENT Sowing should not proceed until conditions allow the formation of a
		1.2 L		satisfactory seedbed. See CROP ESTABLISHMENT for directions. ANNUAL RYEGRASS, SILVERGRASS AND PERENNIAL GRASSES Addition Of Nufarm Wetter TX 200 mL/100 L spray solution, may improve control.
				When treating dense infestations of Silvergrass, use of low volume nozzles (eg SS11001, Hardi No. 10) and a spray volume of 70 L/ha or more is recommended to improve spray coverage.
				TANK MIXTURES For improved control of clover add dicamba 200 SL. Read and follow all label directions, restraints, plantback periods, withholding periods, regional use restrictions and safety directions for the tank mix products. See TANK MIXTURES for directions.
				PERENNIAL WEEDS For Perennial phalaris, Soursob, Skeleton weed and Sorrel, SINOCHEM KELPIE CHISEL 450 HERBICIDE will provide knockdown, seasonal suppression and reduction in treated plant numbers.
	All the above weeds	1.2-2.4 L	TAS only	TASMANIA Use 1.2 L/ha on annual weeds. Increase to 2.4 L/ha where perennial weeds are being treated. To control White clover and improve control of Sorrel and Dock, add 1 L/ha dicamba 200 SL. Observe dicamba 200 SL label directions and plant-back periods.
SOUTHERN AUSTRALIA	Barley Grass, Volunteer Cereals, Wild Oats	800 mL-1.2 L	NSW, VIC, SA,	Treat only actively growing weeds not under stress from low moisture, frost, cold, disease or waterlogging. If
AUSTRALIA Prior to establishing a crop or pasture with an implement	Brome Grass, Canary Grass, Capeweed, Variegated Thistle,	1.0-1.6 L	WA only	heavy grazing has occurred allow regrowth to 6-8 cm before spraying and use the higher rate. RATE SELECTION Use the lower rate on young

that gives minimal	Winter Grass			weeds; increase to higher rate where grasses reach full
or no soil	Annual Ryegrass,	1.2-1.6 L	1	tillering or where broadleaf weeds reach stem
disturbance	Paterson's Curse, Saffron Thistle, Scotch Thistle, Silvergrass, Spear Thistle,			elongation/budding. Increase to higher rates in spring or when treating under cold/ overcast conditions. AERIAL APPLICATION Use the higher rates. See
	Wild Mustard, Wild Radish, Wild Turnip			AERIAL EQUIPMENT under General Instructions.
	Erodium, Perennial Phalaris, Plantain,	1.5-2.0 L		ANNUAL RYEGRASS, SILVERGRASS AND PERENNIAL GRASSES
	Sorrel, Sub Clover, Yorkshire Fog			Add Nufarm Wetter TX, 200 mL/100 spray
	Dock, Flatweed	2.0 L		solution. When treating dense infestation of
				Silvergrass, use of low volume nozzles(eg
				SS11001, Hardi No. 10) and a spray volume of 70 L/ha or more is recommended to improve spray
				coverage.
				TANK MIXTURES For improved control of Dock, Sorrel, and Sub Clover add dicamba 200 SL. Read and follow all label directions, restraints, plant-back periods, withholding periods, regional use restrictions and safety directions for the tank mix products. See TANK MIXTURES for directions. Addition of ammonium sulphate at 2 L/100 L may improve control when treating under adverse environmental conditions. PASTURE OR CROP ESTABLISHMENT DO NOT sow into excessive trash. Trash may be removed by grazing after treatment. Grazing may commence one day after treatment of annual weeds (small) and 7 days for perennial weeds. Delay grazing for three days where annual weeds are large. Sowing may proceed when excessive trash is removed, but not sooner than one day after treatment of annual weeds and 7 days for perennial weeds. See also CROP ESTABLISHMENT. AERIAL (OR SURFACE) SEEDING Delay seeding
				until trash is completely removed by grazing and/or plant decay. When establishing pasture, ensure application of fertilizer and insecticides and follow-up management is undertaken as required.
	All the above weeds	1.2-2.4 L	TAS only	Use 1.2 L/ha on annual weeds. Increase to 2.4 L/ha where perennial weeds are being treated. To control White Clover and improve control of Sorrel and Dock, add 1 L/ha dicamba 200 SL. Observe dicamba 200 SL label directions and plant-back periods.

SOUTHERN AUSTRALIA To commence a fallow	Barley Grass, Volunteer Cereals, Wild Oats Annual Ryegrass, Brome Grass, Capeweed, Paterson's Curse(rosette), Saffron Thistle, Scotch Thistle, Silvergrass, Spear Thistle, Wild Mustard, Wild Radish, Wild Turnip Hoary Cress, Soursob Couch	1.2 L 1.2 L-2.4 L	NSW, Vic, SA, WA only	Treat only actively growing weeds not under stress from low moisture, frost, cold, disease or waterlogging. If heavy grazing has occurred allow regrowth to 6-8 cm before spraying. RATE SELECTION Use lower rates on young weeds or where cultivation is to follow within 21 days. Increasing to the high rates where grasses reach full tillering or where broadleaf weeds reach stem elongation/budding. ANNUAL RYEGRASS, SILVERGRASS AND PERENNIAL GRASSES. Addition of Nufarm Wetter TX at 200 mL/100 L spray. When treating dense infestation of Silvergrass, use of low volume nozzles (eg. SS11001, Hardi No. 10) and a spray volume of 70 L/ha or more is recommended to improve spray coverage. HOARY CRESS Treat from late rosette to early flowering. SOURSOB Treat at tuber exhaustion. COUCH Use the higher rate on dense infestations. Apply sequential treatments during summer and autumn, with autumn being most effective. Repeat applications will be required for full control. For improved control use in conjunction with cultivation TANK MIXTURES Read and follow all label directions, restraints, plant-back periods, withholding periods, regional use restrictions and safety directions for the
	All the above weeds	1.2 L-2.4 L	TAS only	regional use restrictions and safety directions for the tank mix products. See TANK MIXTURES for directions. Use 1.2 L/ha on annual weeds. Increase to 2.4 L/ha where perennial weeds are being treated. To control White Clover and improve control of Sorrel and Dock, add 1 L/ha dicamba 200 SL. Observe dicamba 200 SL label directions and plant-back periods.

NORTHERN AUSTRALIA	Annual Phalaris	400-800 mL	QLD,	Treat only actively growing weeds not under
In fallows or prior to sowing a crop	Barley Grass, Volunteer Cereals, Wild Oats	400 000 IIIE	NSW only	stress from low moisture, frost, cold, disease or waterlogging. If heavy grazing has occurred allow regrowth to 6-8 cm before spraying. Note
	Barnyard Grass, Button Grass, Columbus Grass (seedling), Liverseed Grass, Native Millet, Stinkgrass (Lovegrass), Volunteer Sorghum	800 mL-1.6 L		that under Summer (hot) conditions, dense infestations of Barnyard Grass and Liverseed Grass may require follow up treatment for complete control. In Winter (cold) conditions, symptoms on Deadnettle may be slow to develop.
	Amaranth, Australian Bluebell (QLD only), Cudweed, Fumitory, Mexican Poppy, New Zealand Spinach, Saffron Thistle, Spear Thistle, Spurge, Stinking Goosefoot	800mL-1.2 L		RATE SELECTION Use the lower rate on young weeds; increase to the higher rate where grasses reach full tillering or where broadleaf weeds reach stem elongation/budding. At more advanced stages of growth certain broadleaf weeds require a higher rate range or the addition of 2,4-D ester.
	Black (Giant) Pigweed, Boggabri Weed, Caltrop (Yellowvine), Indian Hedge Mustard, Mintweed, Summer Grass	400-800 mL up to 5 true leaves or 3 cm diameter/ height 800 mL-1.2 L greater than 5 true leaves or 3 cm diameter/height		CROP ESTABLISHMENT Sowing should not proceed until conditions allow the formation of a satisfactory seed bed. See CROP ESTABLISHMENT for directions. TANK MIXTURES Read and follow all label directions, restraints, plant-back periods, withholding periods, regional use restrictions
	African Turnip Weed, Deadnettle, Sweet Summer Grass, Variegated Thistle, Volunteer Sunflower	600-800 mL up to 5 true leaves or 3 cm diameter/ height 800 mL-1.6L greater than 3 cm diameter/height		and safety directions for the tank mix products. DO NOT tank mix with atrazine when spraying Barnyard Grass or Liverseed Grass. AERIAL APPLICATION For instructions on aerial application, under hot conditions, see AERIAL EQUIPMENT under GENERAL
	Annual Ground Cherry (Gooseberry), Bladder Ketmia, Camel Melon, False Castor Oil Plant/ Thomapple, Noogoora Burr, Sowthistle (milk thistle), Turnip Weed, Wild Lettuce, Wild Turnip, Wireweed	800 mL-1.2 L prior to stem elongation/budding. After that use 400 mL- 1.2 L plus 500-700mL 2,4-D ester (800g/L) or 1.2-1.6 L		INSTRUCTIONS. Do not apply by aircraft when temperature is above 30°C.
	Pigweed	800mL-1.6 L up to 20 cm dia		Use a higher rate on larger weeds. Control of Pigweed over a wide range of growth stages can be obtained with the addition of Metsulfuron Methyl (Ally*). Observe re-cropping intervals.
	Sowthistle/Milkthistle (Sonchus oleraceus)	600-800 mL rosettes up to 3 cm diameter 800 mL-1.6 L greater than 3 cm diameter	-	Previously grazed plants may be difficult to control without allowing full recovery.
	Couch (Cynodon dactylon)	1.2 L - 2.4 L		Use the higher rate for dense infestations. Apply sequential treatments during Summer and Autumn, with Autumn being most effective. Repeat applications will be required for full control. For improved control use in conjunction with cultivation.
	Johnson Grass (Sorghum halapense)	1.6 L – 2.4 L		Use the higher rate on plants approaching seed head stage. Apply to plants with a minimum of 30 cm new growth. sequential treatments will be required for long term control.
	Nutgrass (Cyperus rotundus)	1.2 L - 2.4 L		Make first application to actively growing plants when at least 20% have reached the head stage (normally about February). After allowing maximum re-emergence to occur (normally in 6-8 weeks). It is essential to make a second

				application. Note: Follow up treatments should		
			1,1	be made as part of a Nutgrass control program.		
PASTURE TOPPING For annual grass, Capeweed and Calomba Daisy seed-set reduction	Barley Grass, Brome Grass, Capeweed, Silvergrass	240-360 mL	WA, SA NSW, Vic, TAS	Remove stock prior to treatment to allow even regrowth. Apply to Capeweed and Annual Ryegrass at FLOWERING. For other grasses, apply from HEAD to		
	Annual Ryegrass Calomba Daisy	360 mL	only	MILKY DOUGH stage. Use the higher rate for dense infestations or where Annual Ryegrass is present. Apply before signs of plants "haying off". Reduction in pasture legume population may occur as a result of treatment. DO NOT apply to clover or medic crops intended for seed or hay.		
SEED-HEAD SUPPRESSION OF PERENNIAL GRASSES	Bent Grass	300-500 mL	Vic,TAS NSW, WA, SAonly	TIMING Treat from late October to late November. Apply before seedheads have emerged. Use the higher rate where growth is excessive and renovation is intended the following Autumn. FOLLOW-UP MANAGEMENT Graze hard after spraying		
BENT GRASS INFESTED PASTURE For control/suppression prior to establishing crops or improved pasture species	Most annual weeds and Bent Grass	2.0 L	Vic, TAS only	TIMING Apply to actively growing plants in late Spring when they have some seed-head development, but before Summer moisture stress. Remove stock to ensure there is full leaf growth. FOLLOW-UP MANAGEMENT Full disturbance with a tyned implement should follow 10-21 days after spraying. Then follow with a Summer crop, and/or re-seeded pasture or crop the following Autumn.		
PASTURE MANIPULATION For suppression or control of pastures species prior to drilling improved pasture,	Carpet Grass, Kikuyu, Paspalum	1.1-4.8 L	NSW, Vic, WA only	RATE SELECTION For suppression, apply the low rate. Where complete control is required apply up to the high		
forage species, Soybeans or Leucaena. BAND SPRAYING: May	Carpet Grass, Paspalum	1.1-4.8 L	Qld only	rate. BAND SPRAYING Band spraying may be done immediately after the sowing		
also be applied as a band or strip spray	Kikuyu	500 mL-4.8 L		operation. Mount the nozzles behind the coulter/tyne/press wheel assembly of the		
	Barbed Wire Grass, Black Speargrass, Love Grasses, Red Natal Grass, Wire Grasses	2.4 L	NSW	band seeder. Adjust to spray 0.5 to 1.0 m strips. Ensure minimal disturbance of the pasture. Excessive dust created in the seedling operation may reduce herbicide activity. Pasture seed must be drilled at the appropriate depth and covered by soil. LEUCAENA (QLD ONLY) Apply 2 L/ha through a single taper fan nozzle LFI-80 mounted at the rear of the single row planter providing a 1 m swath. Planting rows to be 4 m apart. TIMING Graze heavily, then remove at least		
POATUSSOCK INFESTED PASTURE For reduction of ground cover allowing pasture renovation	and suppression of Poa Tussock	2.4-3.2 L	NSW, TAS, Vic, QLD only	11MING Graze neavily, then remove at least 14 days before spraying to allow fresh regrowth. Apply to actively growing plants after the Autumn break but before heavy frosts (March – May). APPLICATION Increasing to the higher rate may give more effective reductions. If aerial spraying, see AERIAL EQUIPMENT under General Instructions. FOLLOW UP MANAGEMENT Sowing may start from 14 days after spraying. It is essential that correct follow-up pasture establishment and management occurs after each treatment. Spot treatment will limit re-infestation.		

SORGHUM CONTROL Pre-harvest	Sorghum, Grain Sorghum (Sorghum bicolor) DO NOT apply to varieties intended for seed production or varieties prone to lodging	1.2 or 1.6 L	QLD, NSW only	DO NOT apply if crop is under stress from low moisture, frost, cold or waterlogging. RATE SELECTION: Use the lower rate for control of crop and late tillers and suppression of ratoon regrowth. Use the higher rate for improved suppression of ratoon regrowth. TIMING: Apply when grain moisture is less than 25%. Application can be made when moderate browning has occurred. CAUTION: Treatment may increase potential for CROP LODGING, particularly if prior moisture stress has occurred. Harvest as soon as sufficient dry down has occurred to avoid possible lodging CAUTION: Sorghum may be naturally toxic to stock.
SORGHUM CONTROL Post-harvest	Sorghum Stubble, Grain Sorghum (Sorghum bicolor)	800mL-1.2 L for fresh regrowth from slashed stubble 1.2-1.6 L for standing stubble if sufficiently green and for fresh Spring regrowth	QLD, NSW only	APPLY UNDER GOOD GROWING CONDITIONS ONLY. DO NOT apply if plants are under stress from low moisture, frost, cold or waterlogging. SLASHED STUBBLE AND SPRING REGROWTH: Apply when fresh regrowth is at least 20 cm high. STANDING STUBBLE: Apply only if sufficient green leaf is present. If grazing has occurred allow regrowth to 20 cm before treatment. RATE SELECTION: Use the lower rate for knockdown and regrowth suppression where cultivation is to follow. Increase to the higher rate for improved regrowth control. NOTE: Variable results occur where the crop has been subject to stress or growing conditions are marginal. CAUTION: Sorghum may be naturally toxic to stock
SUGAR CANE Ratoon spray out	Sugar Cane, Ratoon Regrowth (Saccharum officinale)	3.2L – 7.2L	QLD, NSW only	APPLY UNDER GOOD GROWING CONDITIONS ONLY to actively growing rations 60-120 cm tall. DO NOT apply if plants are under stress from low moisture or waterlogging. Use the lower rate for suppression or where cultivation is to follow. Use higher rate for control.
RICE Direct drilling	Annual Ryegrass (Lolium rigidum), Annual Phalaris, Canary Grass (Phalaris spp.), Barley Grass (Hordeum leporinum), Burr Medic (Medicago spp.), Sub Clover (Trifolium subterranean), Winter Grass (Poa annua)	800 mL-1.0 L	NSW only	SINOCHEMKELPIE® CHISEL 450 HERBICIDE is less effective on drought-stressed plants. In drought conditions a pre-watering prior to spraying is recommended. In grazed situations, if heavy grazing has occurred allow regrowth to 6-8 cm before spraying. ANNUAL RYEGRASS Add Nufarm Wetter TX at 200 mL/100 L of spray solutions, and where dominant, use the higher rate. SOWING Direct drilling may take place 1-14 days after spraying. SINOCHEMKELPIE® CHISEL 450 HERBICIDE does not provide residual weed control. Permanent water and approved selective herbicides should be used to provide continuing control of weeds.

Cotton pre-harvest Do not use on crops intended for seed production	Bathurst Burr (Xanthium spinosum), Noogoora Burr (Xanthium pungens), Winter annual weeds including Sowthistle/ Milkthistle (Sonchus oleraceus)	1.2 L	Qld NSW, only	Use the lower rate on light infestations of small weeds, where the crop canopy allows adequate spray coverage of the weeds. Increase to the higher rate when the crop canopy may limit spray coverage, when treating dense infestations, or when treating larger weeds. Apply alone or in tank mixtures with Dropp*. Apply when at least 60% of bolls are open and immature bolls cannot be easily cut with a sharp knife. Where a leafy canopy limits spray coverage, reduced weed control can be expected. For best results under these conditions, delay application until canopy reopens following initial conditioning treatment.
	Nutgrass (Cyperus rotundus) (seasonal suppression only)	2 L		Where control of Nutgrass or Noogoora Burr is required treatments should be applied prior the onset of frosts. When tank mixed defoliants, a slightly higher proportion of cotton leaf may be retained, particularly where the higher rate is used. Read and follow all label direction for the tank mix products.
Cotton: Shielded sprayers	Refer to Weeds Controlled in the section Northern Australia: In fallows or prior to sowing a crop	Refer to Boom Spray Rate in the section Northern Australia: In fallows or prior to sowing a crop	Qld NSW, only	Apply KELPIE® CHISEL 450 HERBICIDE to weeds growing between crop rows using a shielded sprayer. DO NOT apply in crops less than 20 cm high. DO NOT allow spray or spray drift to contact any part of the cotton plant as severe injury or destruction may result.

SITUATION	WEED	APPLICATION RATES			STATE	CRITICAL COMMENTS
	CONTROLLED	Boom- spray per Ha	Hand gun per 100 L Water	Knapsack per 15 L		
WOODY AND PERENNIAL WEEDS IN PASTURES, FORESTS AND NONAGRICULTURAL AREAS. (Spot directed or wiper application is required for selectivity in established pastures and forests)	Bent Grass (Agrostis tenuis)	2L	400mL	60mL	Vic, Tas only	Apply to actively growing plants in late Spring but before Summer drought stress. Pasture should NOT be heavily grazed at spraying. Bent Grass should have full leaf growth and some seed head development. NOTE: Bent Grass reestablishes vigorously from seed in the soil. Follow-up management is required to limit seedling re-establishment Application of this product should be followed by a Spring crop and/or by re-seeding pasture or crop the following Autumn.
	Bitou Bush/ Boneseed (Chrysanthemoides monilifera)		800 mL	120 mL	Qld, NSW, Vic, Tas only	Apply to actively growing plants. Spray to wet all foliage. DO NOT apply during periods of drought stress. Further treatment may be necessary to restrict seedling reestablishment
	Blackberry (Rubus fruticosus)		800 mL - 1L	120 - 160 mL	All States	Apply from flowering to leaf fall (generally January-May). Plants should not be under stress of high temperature, drought or frost. Spray to wet all foliage. Use the higher rate on old, dense infestations over 1.75m high. Visible symptoms may not be fully apparent, until the next season. Burning (after complete brownout), pasture improvement and/or further treatment are recommended to control seedlings and/ or regrowth. Use of CDA equipment is not recommended. In Tasmania, do not treat bushes bearing mature fruit.
	Blady Grass (Imperata cylindrica)	7.2 L	1.0 L	160 mL	Qld, NSW only	Apply to actively growing plants when most have reached the head stage
	Boxthorn, African (<i>Lycium</i> ferocissimum)		560- 800mL	80-120mL	All States	Use the lower rate for young bushes; increase to the higher rate for large, mature bushes. Spray to wet all foliage. DO NOT spray during hot, dry summer periods. Burning (after complete brownout), pasture improvement and/ or further treatment are recommended to control seedlings and/or regrowth. Use of CDA equipment is not recommended.
	Bracken (<i>Pteridium</i> esculentum) Brown Beetle Grass		1.2L	180 mL	All States NSW only	Use of wiper equipment is recommended. Refer to Wiper Equipment under General Instructions. Multirope equipment is preferred. Double pass application is required for pipewick equipment. Bracken should be slashed in spring/summer prior to treatment. Apply in March/May to fully unfurled actively growing fronds but prior to frosts. Visible symptoms may be slow to develop and may not be fully apparent until the next season. Complete control will not be achieved from one

					application. Repeat treatment is recommended, preferably associated with pasture improvement.
Carpet Grass (<i>Axonopus</i> spp.)	2.4 L	400 mL	60 mL	All States	Apply to actively growing plants at the early head stage
Cocksfoot (Dactylis glomerata)	2.4 L	560 mL	80 mL	All States	Apply to actively growing plants at the early head stage.
Couch (Cynodon dactylon)	7.2 L	1.0 L	160 mL	All States	Apply to actively growing plants when most have reached the early head stage. In SA and WA apply to active plants during October-November for best results.
Crofton Weed (Eupatorium adenophorum)		400 mL	60 mL	Qld, NSW only	Apply to actively growing plants with full foliage. Further treatment and/or pasture improvement are recommended to restrict seedling re-establishment.
Cumbungi (<i>Typha</i> spp.)	7.2 L	1.0L	160 mL	All states	Apply to actively growing plants at the early head to full head stage (summerautumn). Re-treatment may be required to restrict seedling re-establishment. For application by wiper method refer to WIPER EQUIPMENT under general instructions. Use of wiper equipment is not recommended for Cumbungi in Tasmania.
Flatweed (Cat's Ear) (Hypochaeris radicata)	2.4 L	560 mL	80 mL	All states	Apply to fully developed rosettes at the early flowering stage.
Glyceria, Watermeadow Grass (<i>Glyceria maxima</i>)	4.8 L	800 mL	120 mL	Tas only	Apply to actively growing plants at the mature head stage in late summer-autumn. Add a non-ionic surfactant (50-60% ai) at 200-250mL/100L. Control of Glyceria is only available in dry drains and channels and dry margins of dams, lakes and streams. Please refer to PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT.
Gorse (Furze) (Ulex europaeus)		800 mL plus Pulse 200 mL		All states	Apply all year round, but only to actively growing plants. Always add Pulse, otherwise reduced results will occur. Spray to wet all foliage. Burning (after complete brownout), pasture improvement and/or further treatment are recommended to control seedlings and/or regrowth.
Groundsel Bush (<i>Baccharis halimifolia</i>)		560- 800 mL	80-120 mL	Qld only	Apply to actively growing plants. DO NOT apply during winter, or during periods of summer drought stress. Use the higher rate on bushes over 2m tall. Spray to wet all foliage. Further treatment and/or pasture improvement are recommended to control seedlings and/or regrowth. Low Volume Application (e.g. Splatter Gun and Gas Gun): Use 1:9 (10%) mixture of product:water. Apply 2x2mL dose per 0.5m bush height. Ensure spray contacts all foliage. Use of CDA equipment is not recommended.
Guinea Grass (Panicum maximum)	7.2 L	1.0 L	160 mL	All states	Apply to actively growing plants when most have reached the early head stage. For application by wiper method refer to WIPER EQUIPMENT under general instructions.

Hawthorn (<i>Crataegus</i> spp.)		800 mL - 1.0L	120-160 mL	NSW, Vic, SA, WA, Tas only	Apply to actively growing plants from late flowering to leaf fall. Spray to wet all foliage. Use the higher rate on bushes over 2 m high. Burning (after complete brownout), pasture improvement and/or further treatment are recommended to control seedlings and/or regrowth. Low Volume Application (e.g. Splatter Gun and Gas Gun): Use 1:9 (10%) mixture of product:water. Apply 2x5mL dose per 0.5m bush height. Ensure spray contacts all foliage.
Hoary Cress (Cardaria draba)	1.2 L	400 mL	60 mL	Vic, NSW only	For maximum long term reduction apply from late July to September when plants are in late rosette to flowering stage. Plants should be actively growing and not under stress or drought, frost or waterlogging. Application may be integrated with long fallow. Cultivation may start 7 days after spraying. Wiper equipment may be used where sufficient stem elongation occurs. Refer to WIPER EQUIPMENT under general instructions for applications.
Johnson Grass (Sorghum halepense), Kangaroo Grass (Themeda australis), Kikuyu Grass (Pennisetum clandestinum)	4.8 L	800 mL	120 mL	All states	Apply to actively growing plants when most have reached the early head stage. For application by wiper equipment on Johnson Grass, off-type and Volunteer Sorghum refer to WIPER EQUIPMENT.
Lantana (<i>Lantana</i> <i>camara</i>)		800 mL	120 mL	Qld. NSW only	Apply to actively growing plants with full foliage. Ensure complete treatment of individual plants. DO NOT spray during periods of summer drought stress. Burning (after complete brownout), pasture improvement and/or further treatment are recommended to control seedlings and/or regrowth. Low Volume Application (e.g. Splatter Gun and Gas Gun): Use 1:9 (10%) mixture of product:water. Apply 2x2mL dose per 0.5m bush height. Ensure spray contacts all foliage. SPRINKLER SPRAYER: Apply 6mL of a 10% solution to every square metre of treated area. Use of CDA equipment is not recommended.
Mistflower (Euporatorium riparium)		400 mL	60 mL	Qld. NSW only	Apply to actively growing plants with full foliage. Spray to wet all foliage. Further treatment and/or pasture improvement are recommended to restrict seedling reestablishment. SPRINKLE SPRAYER: Apply 3mL of a 10% solution to every square metre of treated area.

SITUATION	WEED	APPLICATION RATES			STATE	CRITICAL COMMENTS
	CONTROLLED	Boom- spray per Ha	Hand gun per 100 L Water	Knapsack per 15 L		
WOODY AND PERENNIAL WEEDS IN PASTURES, FORESTS AND NONAGRICULTURAL AREAS. (Spot directed or wiper application is required for selectivity in established pastures and forests)	Nutgrass (Cyperus rotundus) Does not refer to other Cyperus spp. which may be known locally as Nutgrass	4.8 L	800 mL	120 mL	All states	Apply to growing plants in late summer i.e., February to mid-April when at least 20-25% have reached the head stage. Apply in split application 6-8 weeks apart.
	Paragrass (Brachiara mutica)	7.2 L	1 L	160 mL	All states	Apply to actively growing, fully developed plants when most have reached the early head stage.
	Paspalum (Paspalum dilatatum)	4.8 L	800 mL	120 mL		rodorioù aro odrif rioda otago.
	Phalaris (Phalaris aquatica)	2.4- 4.8 L	400-800 mL	60-120 mL	SA, Vic, NSW only	Apply to actively growing plants during winter-spring. Use the lower rate where only knockdown is required e.g., prior to burning of firebreaks. Burning can usually start 14-21 days after spraying. For long term control increase to the higher rate.
	Phragmites, Common Reed (<i>Phragmites</i> australis)	7.2 L	1L	160 mL	All states	Apply to actively growing, fully developed plants approaching the early head stage. Visible symptoms of control may be slow to develop and may not be fully apparent until the next season. For application by wiper equipment refer to WIPER EQUIPMENT under general instructions.
	Plantain (<i>Plantago</i> spp.)	2.4 L	560 mL	80 mL	All states	Apply to actively growing, fully developed plants approaching the early head stage. Visible symptoms of control may be slow to develop and may not be fully apparent until the next season. For application by wiper equipment refer to WIPER EQUIPMENT under general instructions.
	Prairie Grass (Bromus unioloides), Qld Blue Grass (Dichanthium sericeum), Red-Leg Grass (Bothriochloa ambigua), Rhodes Grass (Chloris gayana)	4.8 L	800 mL	120 mL	All states	Apply to actively growing plants when most have reached the early head stage.
	Rope Twitch (Agropyron repens)	4.8 L	800 mL	120 mL	Tas, Vic only	Apply in late summer-autumn to actively growing plants with foliage at least 20cm high. To ensure maximum shoot emergence the area should NOT be cultivated in the period from the preceding winter until the time of spraying.

	Rushes (Juncus spp.)				All states	Apply by wiper equipment to actively growing plants. Where there is a large proportion of dead foliage, pre-slashing is recommended. Allow adequate
	Sedge Tall, Umbrella (Carex spp. and Cyperus spp.)				NSW, Vic, Tas only	regrowth before treatment. Refer WIPER EQUIPMENT for application instructions. Control of Rushes, Tall and Umbrella Sedge is only available in dry drains and channels and dry margins of dams, lakes and streams. Please refer to PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT.
		1.6- 3.2 L	400-800 mL	60-120 mL	NSW, Vic, Tas only	Apply to actively growing plants in flowering to post-flowering period (Oct/April). Use the lower rate only if the stand has been slashed prior to treatment. Retreatment may be necessary. Visible symptoms may not be fully apparent for up to 3 months. Use of CDA equipment is not recommended.
	Silverleaf Nightshade (Solanum elaegnifolium)		1.6 L	240 mL	NSW only	Use ONLY under good soil moisture conditions. Apply to actively growing plants at the late flowering to berry stage. Repeat spraying will be necessary to restrict growth and seedling re-establishment.
	Sorrel (Rumex acetosella)	4.8 L	800 mL	120 mL	All states	Apply to actively growing plants when most have reached the early bud stage.
	Soursob (Oxalis pre- caprae)	1.2 L	400 mL	60 mL	NSW, Vic, Tas, SA, WA only	For maximum long term reduction apply from late July to early September but before natural plant yellowing (senescence) occurs. Soursob should be actively growing and not under stress of drought or waterlogging. If heavy frosting has occurred allow recovery before spraying. If heavy grazing has occurred allow recovery of foliage to at least 5cm before spraying. In Conservation Tillage (eg direct drilling) situations application in May-July immediately prior to sowing will give control of top growth and give partial reduction of plant numbers. Refer to other soursob entries in the directions for use table for additional critical comments.
	St Johns Wort (Hypericum perforatum)	2.4 L	400 mL	60 mL	All states	Apply to actively growing plants in the flowering to post flowering procumbent stem stage (generally November-May). Re-treatment or oversowing with improved pasture species may be necessary to restrict seedling reestablishment.
	Sweet Briar Rose (Rosa rubiginosa)		1.2-1.6 L	180-200 mL	Nsw, Vic, Tas, SA, WA only	Apply to actively growing plants from late flowering to leaf fall. Spray to wet all foliage. Use the higher rate on bushes over 1.5m high. Burning (after complete brownout), pasture improvement and/or further treatment

	Thistle, Artichoke (<i>Cynara</i> <i>cardunculus</i>) Thistle, Californian (<i>Cirsium arvense</i>)	2.4 L 4.8 L	400 mL 800 mL	60 mL 120 mL	Vic, SA only Vic, Tas only	are recommended to control seedlings and/or regrowth. Low Volume Application (e.g. Splatter Gun and Gas Gun): Use 1:9 (10%) mixture of product:water. Apply 2x5mL dose per 0.5m bush height. Ensure spray contacts all foliage. Apply at the rosette – early head stage. Apply to actively growing plants at the flowering stage. To ensure maximum shoot emergence the area should not be cultivated prior to spraying. Retreatment and/or pasture improvement may be necessary to restrict seedling re-establishment.
	Water Hyacinth	4.8-7.2 L	800 mL-1L	120-160 mL	All states	Apply when plants are actively growing and at or beyond the early bloom stage of growth. Use the higher rate on dense infestations. Control of Water Hyacinth is only available in dry drains and channels and dry margins of dams, lakes and streams. Please refer to PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT
	Water Lettuce		800 mL-1L	120-160 mL	All states	Best results are obtained from mid- summer through to winter. Use the higher rate on dense infestations. Control of Water Lettuce is only available in dry drains and channels and dry margins of dams, lakes and streams. Please refer to PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT.
	Water Lily, Yellow	4.8 L	800 mL	120 mL	All states	Apply when there is maximum emergence of floating leaves. Allow 2-3 weeks for symptoms to develop, then retreat any unaffected plants. Use low volume sprayer. Control of Yellow Waterlily is only available in dry drains and channels and dry margins of dams, lakes and streams. Please refer to PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT.
	Water Couch (Paspalum distichum, Paspalum paspalodes)	7.2 L	1L	160 mL	All states	Apply to actively growing plants in late summer-autumn (February-March). DO NOT treat after March because of the onset of winter dormancy. Full results may not be visible until the following spring. Not more than 1/4 of the weed should be submerged at the time of treatment. Control of Water Couch is only available in dry drains and channels and dry margins of dams, lakes and streams. Please refer to PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT.
	Yorkshire Fog (Holcus lanatus)	2.4 L	560 mL	80mL	All states	Apply to actively growing plants at the early head stage.

SITUATION	WEED CONTROLLED	APPLICATION RATES			STATE	CRITICAL COMMENTS
		Boom- spray per Ha	Hand gun per 100 L Water	Knapsack per 15 L		
TREE AND VINE CROPS Avocado, Banana, Blueberries, Citrus fruits, Custard apples, Duboisa, Figs (dessert), Guava, Kiwifruit, Litchi, Mango, Monstera fruit, Nuts (including Almond, Pecan, Macadamia, Pistachio and Walnut); Olives, Pawpaw, Persimmons, Pome Fruit, Raspberries, Stone Fruit, Tea, Vineyards.	Amaranth, Barley Grass, Brome Grass, Barnyard Grass, Caltrop, Canary Grass, Capeweed, Chickweed, Deadnettle, Doublegee, Liverseed Grass, Mintweed, Paterson's Curse, Pigweed, Ryegrass, Silvergrass, Spear Thistle, Thornapple, Spiny Burrgrass, Wild Mustard, Wild Oats, Wild Turnip, Winter Grass, Variegated Thistle	1.6-2.4 L	400- 600mL	60-80mL	All states	DO NOT allow spray to drift on to crop. This product can be used as a tank mixture with Simazine SC formulations for the residual control of annual weeds. This mixture should not be used to control perennial weeds. Apply as directed or shielded spray using wiper equipment. DO NOT allow wiper surface to contact any part of the tree, vine or palm. DO NOT apply as a spray near trees or vines less than 3 years old. CITRUS FRUIT, NUTS AND OLIVES, POME FRUIT AND VINEYARDS: DO NOT allow spray drift to contact green bark, or stems, laterals, suckers, fresh wounds, foliage or
	Couch	7.2 L	1.0 L	160 mL		fruit. TEA : Apply a maximum of 3.2L/ha by shielded boom or directed off-centre nozzle or 0.4L/100L by directed hand gun or knapsack to avoid application to the crop. ALL OTHER CROPS: DO NOT allow spray or spray drift to contact any part of the plant including the trunk. Caution: Where split bark on kiwifruit and green stems on pawpaw occur, extreme care is required. Annual weeds may be sprayed anytime they are actively growing. Use the lower rate on weeds up to 15cm tall.

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

GENERAL INSTRUCTIONS

This product is a non-selective herbicide. It is absorbed by the plant foliage and green stems and moves through the plant from point of contact to root system. The effects of this product may not be apparent for 4-7 days depending on weather conditions, weed species and the herbicide use rate. some perennial weeds may not show effects for 10-20 days. Avoid grazing weeds after spraying for 12 to 18 hours (annual weeds) or 7 to 10 days (perennial weeds) to allow translocation of this product through the weeds. This product will control emerged weeds only, and provides no residual control. Use of clean water is essential as glyphosate is deactivated by clay particles.

CROP ESTABLISHMENT

KELPIE CHISEL 450 HERBICIDE is recommended for the control of emerged weeds prior to crop establishment. Suitable cultivation and/or sowing operations are required to provide seedbed conditions satisfactory for crop germination and development. Spraying early to control young weeds will favour preparation of suitable seedbeds. On friable soils where there is only a light cover of young weeds, sowing may proceed satisfactorily from one day after spraying. In situations of heavy weed growth, sowing should be delayed until weed decay and soil conditions allow formation of a satisfactory seedbed. Incorporation of green or decaying vegetation and roots into the seedbed by cultivation or sowing may cause retarded crop emergence, particularly in cold and/or wet conditions. Vegetation may be reduced by grazing, and weed decay may be assisted by cultivation to leave trash on the surface. In marginal seedbed conditions take care to achieve the correct seeding depth, and avoid use of pre-emergence herbicides where label directions advise risk of retarded crop emergence.

MIXING PROCEDURES

A. spray tank should be free of any previous spray chemicals. A suitable tank cleaning agent is recommended.

B. Half fill the spray tank with clean water, add required amount of this product, then fill with clean water. Add surfactant last.

C. Agitate well before spraying.

D. When tank mixing with other compatible chemicals add this product after other water soluble products but before flowables eg flowable Diuron.

IMPORTANT: this product should only be stored and applied only in plastic or plastic lined containers, aluminum, brass, copper, stainless steel or fiberglass containers. The contact of this product with unlined or galvanized steel may cause a highly flammable gas to form causing a potential explosion if ignited by any ignition source (open flame etc.).

SURFACTANT ADDITION

The addition of a 100% non-ionic surfactant at label rate is recommended with this product in all situations where the ratio of this product vol/ha is 2% or less of the total spray volume.

TANK MIXTURES

This product can be tank mixed with chlorsulfuron in fallow or pre-sowing, to provide knockdown and residual control. Observe respective label for Directions for Use and Crop Rotation recommendations.

This product and 2,4-D Ester may be tank mixed for improved control of certain broadleaf weeds. Observed regional restrictions, plant back periods and cautions on the 2,4-D Ester label. This product can be tank mixed with Dicamba 200 for improved control of Sorrel, Sub clover. Medics and White clover.

Atrazine/Simazine

For knockdown and residual control this product can be tank mixed with either Flowable Simazine or Flowable Atrazine. Please observe Directions for Use table and crops suitable on the respective labels. When tank mixing this product, the addition of a crystalline ammonium sulphate at a rate of 2 kg/100 L spray solution is recommended to avoid antagonism. DO NOT apply tank mix by air. WARNING: Mixtures of this product and atrazine do not control Barnyard grass.

APPLICATION

A. BOOM EQUIPMENT: A spray volume of 25-100 L/ha is recommended. Ensure a double overlap of nozzle patterns at the top of the weed canopy.

NOTE: Fan nozzles equipment should be used, at pressures in the range of 240-280 kPa.

B. AERIAL EQUIPMENT: This product may be aerially applied in pasture or fallow situations prior to establishment of field crops, fodder crops or new pasture and for preharvest application to sorghum crops.DO NOT use in intensive horticultural cropping areas. Use recommended rates of KELPIE CHISEL 450 HERBICIDE specified in this label up to a maximum limit of 3.2 L/ha. For Micronair and boom equipment apply in a minimum spray volume of at least 20 L/ha. Droplets with an average size larger than a MEDIUM to COARSE spray droplet size category are recommended. Swath width would be 15-17 m. Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove herbicide residues.

Application on hilly terrain

As spraying height may vary, to maximize target contact, increase water volume to 30-80 L/ha and increase droplet size to at least a COARSE spray droplet size category.

Application procedure in hot conditions

It is recommended that when the temperature reaches 24°C TO 26 °C, increase water volume TO AT LEAST 30-35 L/ha and increase droplet size to at least a COARSE spray droplet size category. Aerial application is not recommended at temperatures above 32 °C.

Wiper Equipment

Wiper Equipment (Ropewick applicators) may be used to apply this product on to weeds growing in oilseed crops, sugar cane, seed and pod vegetables, and tree and vine crops specified in this label, and in pasture and non-crop areas. Avoid contact with desirable vegetation. Operate wiper equipment a minimum of 10 cm above the crop or pasture. Weeds should be at least 15 cm above the crop or pasture at time of application. Speed of travel should be no greater than 8 km/h. Best results are achieved at lower speeds and where two applications are made in opposite directions (double pass). Where weeds are variable height, or occur in dense infestations or clumps, some plants may not be contacted by herbicide solution. In these cases, repeat treatment may be necessary. Mix only enough herbicide solution for immediate requirements. DO NOT store mixed solution for more than a few days. Flush out equipment with water after use.

Rate: mix 1 litre of this product with 2 litres clean water to prepare 33% solution. This product may be used according to the above directions for suppression or control of many annual and perennial weeds. See WEEDS CONTROLLED tables for specific use recommendations.

WASHING AND CLEANING OF EQUIPMENT

Take careful precautions with regards to the washing of all spray equipment after each day of spraying. Using clean water, wash spray tank, nozzles, pumps, etc. Aircraft should be thoroughly washed especially landing gear, after each day of spraying. Spray tanks, pumps, lines and nozzles should be thoroughly rinsed with clean water following application to prevent corrosion.