

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

TITAN

GLYPHOSATE 450

HERBICIDE

ACTIVE CONSTITUENT: 450g/L GLYPHOSATE present as the ISOPROPYLAMINE SALT

GROUP **9** HERBICIDE

A non-selective foliar herbicide for control of a wide range of annual and perennial grasses and broadleaved weeds as per the directions for use table.

APVMA Approval No.: 50345/109260

Pack Size: 20-1000L, 110L, BULK



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IN A TRANSPORT EMERGENCY
DIAL 000
POLICE OR FIRE BRIGADE

TRANSPORT AND HANDLING
NOT A DANGEROUS GOOD
ACCORDING TO THE AUSTRALIAN
DANGEROUS GOODS (ADG) CODE
FOR TRANSPORT BY ROAD AND RAIL

DIRECTIONS FOR USE

Restraints:

DO NOT apply to weeds under stress.

DO NOT apply if rain is expected within 6 hours.

DO NOT graze areas where plants toxic to stock are present until weeds are completely brown.

DO NOT disturb treated areas in any way for 1 day after application to annual weeds, or for 7 days after treatment of perennial weeds.

DO NOT treat weeds under poor growing conditions or dormant conditions as occur in drought, waterlogging, disease, insect damage or following frost.

DO NOT treat weeds heavily covered with dust or silt.

Rainfall occurring up to 6 hours after application may reduce effectiveness. Heavy rainfall within 2 hours of the application may wash the chemical off the foliage and repeat treatment may be required.

CROP/ SITUATION	WEEDS CONTROLLED	STATE	BOOM SPRAY RATE/ha	CRITICAL COMMENTS
SOUTHERN AUSTRALIA Winter crop or pasture, prior to disturbance by cultivation and/or sowing with tyned equipment	Barley Grass (<i>Amaranthus</i> spp.), Brome Grass (<i>Bromus</i> spp.), Capeweed (<i>Arctotheca calendula</i>), Doublegee (<i>Emex australis</i>), Volunteer Cereals, Wild Oats (<i>Avena</i> spp.)	NSW, VIC, SA, WA only	400-800mL pre-tillering + 800mL-1L post-tillering	Treat only actively growing weeds not under stress from low moisture, frost, cold, disease or waterlogging. If heavy grazing has occurred allow regrowth to 6-8cm before spraying and use the higher rate. RATE SELECTION Increase to higher rates late in the season or when treating under cold/overcast conditions.
	Annual Phalaris, Annual Ryegrass, Silvergrass, Winter Grass		800mL-1.0L pre-tillering + 1-1.2L post-tillering	FULL DISTURBANCE with a cultivation or sowing with tyned implement may start one day after treatment (7 days if Dock, Phalaris, Skeleton Weed, Soursob, or Sorrel are present) and should occur within 21 days after treatment. When treating light infestations or seedling annual grasses (pre-tillering) and annual broadleaved weeds (less than 8cm dia/height). cultivation or sowing may start 6 hours after treatment and should occur within 21 days. CROP ESTABLISHMENT Sowing should not proceed until conditions allow the formation of a satisfactory seedbed. See Crop Establishment for directions.
	Capeweed, Doublegee (Spiny Emex, Three Cornered Jack), Calomba Daisy		400-800mL less than 8cm diameter/height 800mL-1.2L greater than 8cm diameter/height	
	Amsinckia (<i>Amsinckia</i> spp.), Fumitory (<i>Fumaria</i> spp.), Paterson's Curse (<i>Echium plantagineum</i>), Saffron Thistle (<i>Carthamus lanatus</i>), Scotch Thistle (<i>Onopordum acanthium</i>), Spear Thistle (<i>Cirsium vulgare</i>), Variegated Thistle (<i>Silybum marianum</i>), Volunteer Lupins, Wild Turnip (<i>Brassica tournefortii</i>)	NSW, VIC, SA, WA only	800mL-1L pre-tillering + 1-1.2L post-tillering	TANK MIXTURES For improved control of Clover add TITAN Dicamba 500. 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, TITAN Glyphosate 450 will provide knockdown, seasonal suppression and reduction in treated plant numbers.
	Perennial Phalaris, Skeleton Weed (<i>Chondrilla juncea</i>) – fully emerged rosettes – (NSW only), Sorrel (<i>Rumex acetosella</i>), Soursob (<i>Oxalis pes-caprae</i>), Sub-clover (<i>Trifolium subterraneum</i>)		1.2L	
	Dock (seedling)		800mL-1.2L	
	All the above weeds	Tas only	1.2-2.4L	Use 1.2L/ha on annual weeds. Increase to 2.4L/ha where perennial weeds are being treated. To control White Clover and improve control of Sorrel and Dock add 1L TITAN Dicamba 500. Observe TITAN Dicamba 500 label directions, and plant back periods.
SOUTHERN AUSTRALIA Prior to establishing a crop or pasture with an implement that gives minimal or no disturbance	Barley Grass (<i>Hordeum leporinum</i>), Volunteer Cereals, Wild Oats (<i>Avena</i> spp.)	NSW, ACT, VIC, SA, WA only	800mL-1.2L	Treat only actively growing weeds not under stress from low moisture, frost, cold, disease or waterlogging. If heavy grazing has occurred, allow regrowth to 6-8cm before spraying and use the higher rate.
	Brome Grass, Canary Grass (Annual Phalaris), Capeweed, Variegated Thistle, Winter Grass		1.0-1.6L	RATE SELECTION Use the lower rate on young weeds; increase the higher rate where grasses reach full tillering or where broadleaf weeds reach stem elongation/budding. Increase to higher rates in spring or when treating under cold/overcast conditions.
	Annual Ryegrass, Paterson's Curse, Saffron Thistle, Scotch Thistle, Silvergrass, Wild Mustard, Wild Radish, Wild Turnip		1.2-1.6L	AERIAL APPLICATION Use the higher rates. See Aerial Equipment. ANNUAL RYEGRASS, SILVERGRASS AND PERENNIAL GRASSES Add a registered non-ionic surfactant containing 1040g/L Octyl phenol ethoxylate 200mL/100L spray solution. When treating dense infestations of Silvergrass, use of low volume nozzles (e.g. SS11001, Hardi No. 10) and a spray volume of 70L/ha or more is recommended to improve spray coverage.

Continued next page

CROP/ SITUATION	WEEDS CONTROLLED	STATE	BOOM SPRAY RATE/ha	CRITICAL COMMENTS
SOUTHERN AUSTRALIA Prior to establishing a crop or pasture with an implement that gives minimal or no disturbance – <i>continued</i>	Erodium, Perennial Phalaris, Plantain, Sorrel, Sub-clover, Yorkshire Fog	NSW, ACT, VIC, SA, WA only	1.5-2.0L	<i>Continued from previous page</i> TANK MIXTURES For improved control of Dock, Sorrel and Sub-clover, add TITAN Dicamba 500. 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, 2kg/100L, 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.
	Dock, Flatweed		2.0L	
	All of the above weeds	TAS only	1.2-2.4L	Use 1.2L/ha on annual weeds. Increase to 2.4L/ha where perennial weeds are being treated. To control White Clover and improve control of Sorrel and Dock, add 1L/ha TITAN Dicamba 500. Observe TITAN Dicamba 500 label directions and plant back periods.
SOUTHERN AUSTRALIA Weed control to commence fallow	Barley Grass, Volunteer Cereals, Wild Oats	NSW, ACT, VIC, SA, WA only	800mL-1.2L	Treat only actively growing weeds not under stress from low moisture, frost, cold, disease or waterlogging. If heavy grazing has occurred, allow regrowth to 6-8cm before spraying. RATE SELECTION Use the lower rate on young weeds or where cultivation is to follow within 21 days. Increasing to the high rates where grasses reach full tillering or where broad leaf weeds reach stem elongation/budding. ANNUAL RYEGRASS, SILVERGRASS AND PERENNIAL GRASSES Add a registered non-ionic surfactant containing 1040g/L Octyl phenol ethoxylate at 200mL/100L spray solution. When treating dense infestations of Silvergrass, use of low volume nozzles (eg. SS11001, Hardi No. 10) and a spray volume of 70L/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.
	Annual Ryegrass, Brome Grass, Capeweed, Paterson's Curse (rosette), Saffron Thistle, Scotch Thistle, Silvergrass, Spear Thistle, Wild Mustard, Wild Radish, Wild Turnip		1.2-1.6L	
	Hoary Cress, Soursob		1.2-1.6L	
	Couch		1.2-2.4L	
	All the above weeds	TAS only	1.2-2.4L	Use 1.2L/ha on annual weeds. Increase to 2.4L/ha where perennial weeds are being treated. To control White Clover and improve control of Sorrel and Dock, add 1L/ha TITAN Dicamba 500. Observe TITAN Dicamba 500 label directions and plant back periods.
NORTHERN AUSTRALIA Fallow or prior to sowing winter or summer crops	Annual Phalaris, Barley Grass, Volunteer Cereals, Wild Oats	QLD, NSW only	400-800mL	Treat only actively growing weeds not under stress from low moisture, frost, cold disease or waterlogging. If heavy grazing has occurred, allow regrowth to 6-8cm before spraying. Note 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. 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 or the addition of 2,4-D Ester. CROP ESTABLISHMENT Sowing should not proceed until conditions allow the formation of a satisfactory seedbed. See Crop Establishment for directions.
	Barnyard Grass, Button Grass, Columbus Grass (Seedling), Liverseed Grass, Native Millet, Stinkgrass (Lovegrass), Volunteer Sorghum		800mL-1.6L	
	Amaranth, Australian Bluebell (QLD only), Cudweed, Fumitory, Mexican Poppy, New Zealand Spinach, Saffron Thistle, Spear Thistle, Spurge, Stinking Goosefoot		800mL-1.2L	

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CROP/ SITUATION	WEEDS CONTROLLED	STATE	BOOM SPRAY RATE/ha	CRITICAL COMMENTS
NORTHERN AUSTRALIA Fallow or prior to sowing winter or summer crops – <i>continued</i>	Black (Giant) Pigweed, Boggabri Weed, Caltrop (Yellow Vine), Indian Hedge Mustard, Mintweed, Summer Grass	QLD, NSW only	400-800mL up to 5 true leaves or 3cm dia/height 800mL-1.2L greater than 5 true leaves or 3cm dia/height	<i>Continued from previous page</i> TANK MIXTURES Read and follow all label directions, restraints plant back periods, withholding periods, regional use restrictions 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. DO NOT apply by aircraft when temperature is above 30°C.
	African Turnip Weed, Deadnettle, Sweet Summer Grass, Variegated Thistle, Volunteer Sunflower		600-800mL up to 5 true leaves or 3cm dia/height 800mL-1.6L greater than 3cm dia/height	
	Annual Ground Cherry (Gooseberry), Camel Melon, Bladder Ketmia, False Castor Oil Plant/Thornapple, Noogoora Burr, Turnip Weed, Wild Lettuce, Wild Turnip, Wireweed		800mL-1.2L prior to stem elongation/budding After that use 400mL-1.2L plus 500-700mL 2.4-D Ester (800g/L) OR 1.2L-1.6L	
	Pigweed		800mL-1.6L up to 20cm dia	
	Sowthistle, Milkthistle (<i>Sonchus oleraceus</i>)		600-800mL rosettes up to 3cm dia 800mL-1.6L greater than 3cm dia	Previously grazed plants may be difficult to control without allowing full recovery.
	Couch (<i>Cynodon dactylon</i>)		1.2-2.4L	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 (<i>Sorghum halapense</i>)		1.6-2.4L	Use the higher rate on plants approaching seedhead stage. Apply to plants with a minimum of 30cm new growth. Sequential treatments will be required for long term control.
	Nutgrass (<i>Cyperus rotundus</i>)		2.4L + 2.4L	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 be made as part of a Nutgrass control problem.
Pasture manipulation	Carpet Grass (<i>Axonopus</i> spp.), Kikuyu (<i>Pennisetum clandestinum</i>), Paspalum (<i>Paspalum dilatatum</i>)	QLD, NSW, VIC, WA only	1.1-4.8L	Use for suppression of these grasses prior to drilling forage species or soybeans. Higher rates give greater control.
Pasture renovation Poa Tussock infestations	Most annual weeds and suppression of Poa (<i>Poa labillardieri</i>)	QLD, NSW, VIC, TAS only	2.4-3.2L	Graze heavily then allow 14 days for strong regrowth. Apply to actively growing plants after the autumn break, but before heavy frosts – March to May. Higher rates give greater control. Sowing may commence 14 days after treatment. Ensure proper follow-up pasture establishment and management after treatment.
Pasture topping	Annual Ryegrass (<i>Lolium rigidum</i>), Barley Grass (<i>Hordeum leporinum</i>), Brome Grass (<i>Bromus</i> spp.), Capeweed (<i>Arctotheca calendula</i>), Silvergrass (<i>Vulpia</i> spp.)	NSW, VIC, SA, WA only	240-360mL	Use higher rate for severe infestation and for Annual Ryegrass. Apply to Capeweed and Annual Ryegrass at flowering. Apply to other grasses from head to milky dough stage, before signs of haying-off. Use 50L/ha water, or less. If using more water, add a non-ionic surfactant at recommended rates. Reduction in pasture legume population may occur.
Pasture – Bent Grass infestations	Most annual weeds and Bent Grass (<i>Agrostis capillaris</i>)	VIC, TAS only	2L	Remove stock to ensure strong leaf growth. Apply to actively growing weeds with some seed head development in late spring. Disturb 10-21 days after treatment with tynd equipment. Follow with a summer crop, then re-seed pasture or crop next autumn.

CROP/ SITUATION	WEEDS CONTROLLED	STATE	BOOM SPRAY RATE/ha	CRITICAL COMMENTS
Rice – direct drill	Annual Phalaris (Canary Grass), Annual Ryegrass (<i>Lolium rigidum</i>), Barley Grass (<i>Hordeum leporinum</i>), Burr Medic (<i>Medicago</i> spp.), Sub-Clover (<i>Trifolium subterraneum</i>), Winter Grass (<i>Poa annua</i>)	NSW only	800mL-1L	Apply to actively growing weeds and at least 6-8cm high. Use high rate for severe infestations of Annual Ryegrass and add non-ionic wetter. Direct drilling may commence 1-14 days after treatment. For residual weed control, permanent water, and approved selective herbicide treatments will be required.
Sorghum (NOT seed varieties or those sensitive to lodging)	Grain Sorghum (<i>Sorghum bicolor</i>) - pre-harvest	QLD, NSW only	1.2-1.6L	Use high rate for ratoon re-growth. Apply when grain moisture is less than 25%. DO NOT apply to plants under stress.
	Sorghum Stubble - post-harvest		800mL-1.2L	Use this rate for re-growth from slashed stubble and for fresh spring re-growth. Apply when fresh regrowth is at least 20cm high. DO NOT apply to plants under stress
Sugar cane	Ratoon control	QLD, NSW only	3.2-7.2L	Apply to actively growing ratoons 60-100cm high. Use low rate for suppression or where cultivation will follow. Use higher rate for control. Apply with properly calibrated boom spray at correct height to allow overlap of spray pattern at top of crop canopy. DO NOT apply if plants are under stress.
Cotton pre-harvest DO NOT use on crops intended for seed production	Bathurst Burr (<i>Xanthium spinosum</i>), Noogoora Burr (<i>Xanthium pungens</i>), Winter annual weeds including Sow Thistle/Milk Thistle (<i>Sonchus oleraceus</i>)	QLD, NSW only	1-2L	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 when the crop canopy may limit spray coverage, when treating dense infestations. or when treating larger weeds. Apply alone or in tank mixtures with Escalate*. Apply when at least 60% of bolls are open and immature bolls cannot be easily cut with a knife.
	Nutgrass seasonal suppression only		2L	Where a leafy canopy limits spray coverage, reduced weed control can be expected. For best results under these conditions, delay application until canopy re-opens following the initial conditioning treatment. Where control of Nutgrass or Noogoora Burr is required, treatments should be applied prior to the onset of frosts. When tank mixed with defoliant, a slightly higher proportion of cotton leaf may be retained, particularly where the higher rate is used. Read and follow all directions 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	QLD, NSW only	–	Apply TITAN Glyphosate 450 Herbicide to weeds growing between crop rows using a shielded sprayer. DO NOT apply in crops less than 20cm high. DO NOT allow spray or spray drift to contact any part of the cotton plant as severe injury or destruction may result.

CROP/ SITUATION	WEEDS CONTROLLED	STATES	APPLICATION RATES			CRITICAL COMMENTS
			Boom spray per ha	Handgun per 100L water	Knapsack per 15L	
WOODY AND PERENNIAL WEEDS IN PASTURES, FORESTS AND NON AGRICULTURAL AREAS Spot directed or wiper application is required for selectivity in established pastures and forests	Bent Grass (<i>Agrostis tenuis</i>)	VIC, TAS only	2L	400mL	60mL	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 re-establishes vigorously from seed in the soil. Follow up management is required to limit seedling reestablishment. Application of this product may be followed by a spring crop, and/or by re-seeding pasture or crop the following autumn.
	Bitou Bush/Boneseed (<i>Chrysanthemoides monilifera</i>)	QLD, NSW, ACT, VIC, TAS only	–	800mL	120mL	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 re-establishment.
	Blackberry (<i>Rubus fruticosus</i>)	ALL STATES	–	800mL-1L	120-160mL	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 (<i>Imperata cylindrica</i>)	QLD, NSW, ACT only	7.2L	1L	160mL	Apply to actively growing plants when most have reached the head stage.

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			Boom spray per ha	Handgun per 100L water	Knapsack per 15L	
WOODY AND PERENNIAL WEEDS IN PASTURES, FORESTS AND NON AGRICULTURAL AREAS Spot directed or wiper application is required for selectivity in established pastures and forests – continued	Boxthorn, African (<i>Lycium ferocissimum</i>)	ALL STATES	–	560-800mL	80-120mL	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 periods of summer drought stress. 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 esculentum</i>)	ALL STATES	–	1.2L	180mL	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
	Brown Beetle Grass	NSW, ACT only				
	Carpet Grass (<i>Axonopus</i> spp.)	ALL STATES	2.4L	400mL	60mL	Apply to actively growing plants at the early head stage.
	Cocksfoot (<i>Dactylis glomerata</i>)	ALL STATES	2.4L	560mL	80mL	Apply to actively growing plants at the early head stage.
	Couch (<i>Cynodon dactylon</i>)	ALL STATES	7.2L	1.0L	160mL	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 (<i>Eupatorium adenophorum</i>)	QLD, NSW, ACT only	–	400mL	60mL	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.)	ALL STATES	7.2L	1L	160mL	Apply to actively growing plants at the early head to full head stage (summer-autumn). 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) (<i>Hypochoeris radicata</i>)	ALL STATES	2.4L	560mL	80mL	Apply to fully developed rosettes at the early flowering stage.
	Glyceria, Watermeadow Grass (<i>Glyceria maxima</i>)	TAS only	4.8L	800mL	120mL	Apply to actively growing plants at the mature head stage in late summer-autumn. Add a non-ionic surfactant 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) (<i>Ulex europaeus</i>)	ALL STATES	–	800mL plus Pulse* 200mL	–	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>)	QLD only	–	560-800mL	80-120mL	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. <u>Low Volume Application (e.g. Splatter Gun and Gas Gun):</u> 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.

CROP/ SITUATION	WEEDS CONTROLLED	STATES	APPLICATION RATES			CRITICAL COMMENTS
			Boom spray per ha	Handgun per 100L water	Knapsack per 15L	
WOODY AND PERENNIAL WEEDS IN PASTURES, FORESTS AND NON AGRICULTURAL AREAS Spot directed or wiper application is required for selectivity in established pastures and forests – continued	Hoary Cress (<i>Cardaria draba</i>)	NSW, ACT, VIC only	1.2L	400mL	60mL	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.
	Johnson Grass (<i>Sorghum halepense</i>), Kangaroo Grass (<i>Themeda australis</i>), Kikuyu Grass (<i>Pennisetum clandestinum</i>)	ALL STATES	4.8L	800mL	120mL	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 camera</i>)	QLD, NSW, ACT only	–	800mL	120mL	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. <u>Low Volume Application (e.g. Splatter Gun and Gas Gun):</u> Use 1:9 (10%) mixture of product:water. Apply 2x5mL dose per 0.5m bush height. Ensure spray contacts all foliage. <u>Sprinkler Sprayer:</u> Apply 3mL of a 10% solution to every square metre of treated area. Use of CDA equipment is not recommended.
	Mistflower (<i>Eupatorium riparium</i>)	QLD, NSW, ACT only	–	400mL	60mL	Apply to actively growing plants with full foliage. Spray to wet all foliage. Further treatment and/or pasture improvement are recommended to restrict seedling re-establishment. <u>Sprinkler Sprayer:</u> Apply 3mL of a 10% solution to every square metre of treated area.
	Nutgrass (<i>Cyperus rotundus</i>) Does not refer to other <i>Cyperus</i> spp. which may be known locally as Nutgrass	ALL STATES	4.8L	800mL	120mL	Apply to growing plants in late summer ie February to mid April when at least 20-25% have reached the head stage. Apply in split application 6-8 weeks apart.
	Paragrass (<i>Brachiara mutica</i>)	ALL STATES	7.2L	1L	160mL	Apply to actively growing, fully developed plants when most have reached the early head stage.
	Paspalum (<i>Paspalum dilatatum</i>)		4.8L	800mL	120mL	
	Phalaris (<i>Phalaris aquatica</i>)	NSW, ACT, VIC, SA only	2.4-4.8L	400-800mL	60-120mL	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 australis</i>)	ALL STATES	7.2L	1L	160mL	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 method refer to WIPER EQUIPMENT under general instructions.
	Plantain (<i>Plantago</i> spp.)	ALL STATES	2.4L	560mL	80mL	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 method refer to WIPER EQUIPMENT under general instructions.
	Prairie Grass (<i>Bromus unioloides</i>), Qld Blue Grass (<i>Dichanthium sericeum</i>), Red-Leg Grass (<i>Bothriochloa ambigua</i>), Rhodes Grass (<i>Chloris gayana</i>)	ALL STATES	4.8L	800mL	120mL	Apply to actively growing plants when most have reached the early head stage.
	Rope Twitch (<i>Agropyron repens</i>)	VIC, TAS only	4.8L	800mL	120mL	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.

CROP/ SITUATION	WEEDS CONTROLLED	STATES	APPLICATION RATES			CRITICAL COMMENTS
			Boom spray per Ha	Handgun per 100L water	Knapsack per 15L	
WOODY AND PERENNIAL WEEDS IN PASTURES, FORESTS AND NON AGRICULTURAL AREAS Spot directed or wiper application is required for selectivity in established pastures and forests – continued	Rushes (<i>Juncus</i> 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 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.
	Sedge Tall, Umbrella (<i>Carex</i> spp. and <i>Cyperus</i> spp.)	NSW, ACT, VIC, TAS only	–	–	–	
	Sedge Tall, Umbrella (<i>Carex</i> spp. and <i>Cyperus</i> spp.)	NSW, ACT, VIC, TAS only	1.6-3.2L	400-800mL	60-120mL	Apply to actively growing plants in the flowering to post flowering period (Oct/April). Use the lower rate only if the stand has been slashed prior to treatment. Re-treatment may be necessary. Visible symptoms may not be fully apparent for up to 3 months. Use of CDA equipment is not recommended.
	Silverleaf Nightshade (<i>Solanum elaeagnifolium</i>)	NSW, ACT only	–	1.6L	240mL	Use ONLY under good soil moisture conditions. Apply to actively growing plants in the late flowering to berry stage. Repeat spraying will be necessary to restrict growth and seedling re-establishment.
	Sorrel (<i>Rumex acetosella</i>)	ALL STATES	4.8L	800mL	120mL	Apply to actively growing plants when most have reached the early bud stage.
	Soursob (<i>Oxalis pre-caprae</i>)	NSW, ACT, VIC, TAS, SA, WA only	1.2L	400mL	60mL	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 (e.g. direct drilling) situations application in May-June immediately prior to sowing will give control of top growth and give partial reduction of plant numbers. Refer CONSERVATION TILLAGE USES table.
	St Johns Wort (<i>Hypericum perforatum</i>)	ALL STATES	2.4L	400mL	60mL	Apply to actively growing plants in the flowering to late flowering procumbent stem stage (generally November-May). Re-treatment or oversowing with improved pasture species may be necessary to restrict seedling re-establishment.
	Sweet Briar Rose (<i>Rosa rubiginosa</i>)	NSW, ACT, VIC, TAS, SA, WA only	–	1.2-1.6L	180-200mL	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 are recommended to control seedlings and/or regrowth. <u>Low Volume Application (e.g. Splatter Gun and Gas Gun):</u> Use 1:9 (10%) mixture of product:water. Apply 2x5mL dose per 0.5m bush height. Ensure spray contacts all foliage.
	Thistle, Artichoke (<i>Cynara cardunculus</i>)	VIC, SA only	2.4L	400mL	60mL	Apply at the rosette – early head stage.
	Thistle, Californian (<i>Cirsium arvense</i>)	VIC, TAS only	4.8L	800mL	120mL	Apply to actively growing plants at the flowering stage. To ensure maximum shoot emergence the area should not be cultivated prior to spraying. Re-treatment and/or pasture improvement may be necessary to restrict seedling re-establishment.
	Water Hyacinth	ALL STATES	4.8-7.2L	800mL-1L	120-160mL	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	ALL STATES	–	800mL-1L	120-160mL	Best results are obtained from mid-summer through to winter. For best results 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	ALL STATES	4.8L	800mL	120mL	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.

CROP/ SITUATION	WEEDS CONTROLLED	STATES	APPLICATION RATES			CRITICAL COMMENTS
			Boom spray per ha	Handgun per 100L water	Knapsack per 15L	
WOODY AND PERENNIAL WEEDS IN PASTURES, FORESTS AND NON AGRICULTURAL AREAS Spot directed or wiper application is required for selectivity in established pastures and forests <i>– continued</i>	Water Couch (<i>Paspalum distichum</i> , <i>Paspalum paspalodes</i>)	ALL STATES	7.2L	1L	160mL	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 (<i>Holcus lanatus</i>)	ALL STATES	2.4L	560mL	80mL	Apply to actively growing plants at the early head stage.
TREE AND VINE CROPS Avocado, Banana, Blueberries, Citrus fruits, Custard apples, Duboisia, 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	ALL STATES	1.6-2.4L	400-600mL	60-80mL	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 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.
	Couch	ALL STATES	7.2L	1.0L	160mL	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.

CLAIMS FOR USE	
SITUATION WEEDS	
Crop or Pasture Establishment Pasture topping and renovation Fallow establishment Tussock infested pasture, Rice (when direct drilling)	Many annual and perennial grasses and broadleaf weeds as per Directions for Use table.
Sorghum pre and post harvest control Sugar cane (Ratoon spray out)	Sorghum (<i>Sorghum bicolor</i>) Sugar cane (<i>Saccharum officinale</i>)

PRE-HARVEST APPLICATION (ALL STATES)			
SITUATION	WEEDS	CONTROLLED BOOM RATE/ha	CRITICAL COMMENTS
PRE-HARVEST APPLICATION To reduce viable seed set of weeds in: Field Peas (<i>Pisum sativum</i>), Faba Beans (<i>Vicia faba</i>)	Annual Ryegrass (<i>Lolium rigidum</i>)	385-815mL	Use the lower rate if Ryegrass is flowering and higher rate if Ryegrass is at milky dough stage. Application should be made at or after crop maturity. Application before this time may significantly affect yields (in practice loss of in excess of 25% can occur). Apply when average seed moisture content is below 30%. For Faba Beans, this is indicated by pods going black, and for Field Peas by the pods going yellow. DO NOT harvest within 7 days after application. DO NOT use on crops intended for seed or sprout growing. Glyphosate resistant biotypes have been detected in Australia. If glyphosate resistant weeds are known to be present, apply an additional method of control.

PRE-HARVEST APPLICATION (ALL STATES) – continued			
SITUATION	WEEDS	CONTROLLED BOOM RATE/ha	CRITICAL COMMENTS
PRE-HARVEST APPLICATION As a harvest aid and weed control: Wheat (<i>Triticum aestivum</i>)	Annual weeds	1.1-2.2L	Apply to mature crop from late dough stage (28% moisture) onwards. The higher rate will be required when crops are heavy and leaf shading effects may occur. DO NOT harvest within 7 days after application. DO NOT use on crops intended for seed or sprout growing. Where wheat is grown in rotation with any herbicide tolerant crop, management should be consistent with implementation of any management plan for herbicide tolerant crops
PRE-HARVEST APPLICATION To desiccate a crop as a harvest aid and weed control: Adzuki Beans, Chickpeas, Cowpea, Faba Beans, Field Peas, Lentils, Mungbeans, Soybean (Application to crops intended for seed production or for sprouting may reduce germination percentage to commercially unacceptable levels).	Annual weeds	815mL-2.2L	Apply with boom or by air. Use higher rates where crops or weeds are dense and where faster desiccation is required. Application should be made at or after crop maturity. <u>Chickpeas and Lentils:</u> Apply when physiologically mature and less than 15% green pods. <u>Soybean:</u> Apply only after seed pods have lost all green colour and 80-90% of leaves have dropped. <u>Mungbeans/Adzuki and Cowpea:</u> Apply to mature crops when pods are brown/black. <u>Field Peas:</u> Apply when seeds turn yellow and average seed moisture content is below 30%. <u>Faba Beans:</u> Apply when pods turn black and average seed moisture content is below 30%. DO NOT harvest within 7 days of application. Speed of desiccation is dependent on crop stage, growing conditions and weather conditions during and after application.
PRE-HARVEST APPLICATION As a harvest aid and weed control: Chickpeas (Application to crops intended for seed production or for sprouting may reduce germination percentage to commercially unacceptable levels).	Annual weeds	600mL-1.3L plus 5g Metsulfuron 600 WG Herbicide	Apply by boom or by air. Apply when chickpeas are physiologically mature and less than 15% of green pods are present. Use higher rates where crops or weeds are dense and where faster desiccation is required. DO NOT harvest within 7 days of application. Speed of desiccation is dependent on crop stage, growing conditions and weather conditions during and after application.

GENERAL USES	
USE SITUATIONS – ALL STATES (except where noted). For weeds controlled and application rates, refer to the WEEDS CONTROLLED tables.	
NON-AGRICULTURAL AREA Around buildings, Commercial and Industrial areas, Domestic and public service areas and Rights of ways	For residual control, TITAN Glyphosate 450 Herbicide may be tank mixed with certain herbicides. Refer to Compatibility section.
AGRICULTURAL AREAS	TITAN Glyphosate 450 Herbicide may be used for control of annual and perennial weeds as directed. In agricultural land prior to sowing of any edible or non-edible crop, but not prior to transplanting Tomato seedlings
DRY DRAINS AND CHANNELS Dry margins of dams, lakes and streams situations	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 the water. DO NOT allow water to return to dry channels and drains within 4 days of application.
FORESTRY	TITAN Glyphosate 450 Herbicide may be used in the following situations: <ul style="list-style-type: none"> • prior to establishment of nurseries; • for site preparation prior to planting; • amongst established trees using a directed or shielded sprayer. DO NOT allow spray or spray drift to come into contact with foliage or green bark or stems of desirable trees, as severe damage may occur.
TREE AND VINE CROPS Avocado, Banana, Blueberries, Citrus Fruit, Custard Apples, Dubosia, Figs –dessert, Guava, Litchi, Mango, Monstera Fruit, Nuts (Almond, Macadamia, Pecan, Pistachio and Walnut), Olives, Persimmons, Pome Fruit, Raspberries, Stone Fruit, Vineyards	Apply as directed or shielded spray only. DO NOT apply as a spray near trees or vines less than 3 years old, unless they are effectively shielded from spray or spray drift. Citrus fruits, Nuts, Olives and Pome fruit DO NOT allow spray or spray drift to contact foliage, green bark or stems, canes laterals, suckers, flesh wounds or fruit. All other crops DO NOT allow spray or spray drift to contact any part of the plant including the bark.
PASTURE	DIRECTED (SPOT) APPLICATION: TITAN Glyphosate 450 Herbicide is non-selective and may damage or kill any plant in the sprayed area. Re-treatment and/or pasture improvement may be required to restrict weed seedling re-establishment. BOOM APPLICATION: TITAN Glyphosate 450 Herbicide may be used to suppress or kill existing pasture species prior to reseeding or planting other crops. Where directed (spot) spray has been applied, grazing stock need not be removed.

ANNUAL WEEDS – NON-CULTIVATED OPTIONS			
WEEDS CONTROLLED (ALL STATES)		RATE	CRITICAL COMMENTS (Read application check list before using)
Amaranth	<i>Amaranthus</i> spp.	<u>Boom</u> 1.6-2.4L/ha <u>Handgun</u> 400-600mL per 100L <u>Knapsack</u> 60-80mL per 15L Refer to Application Section	<p>Annual weeds may be sprayed any time they are actively growing.</p> <p>Use the lower rate on weeds up to 15cm tall. Increase to the higher rate for weeds over 15cm tall.</p> <p>Visible symptoms develop in 3-7 days, but complete desiccation may take 20-30 days under cool conditions.</p> <p>TITAN Glyphosate 450 Herbicide does not provide residual weed control. Repeat treatments may be required to control later germinating weeds.</p> <p>For residual control, TITAN Glyphosate 450 Herbicide may be tank mixed with certain herbicides. Refer to Compatibility section.</p> <p>When applying in high volume (i.e. Handgun or Knapsack), add a non-ionic wetter (1000g/L) at 200mL per 100L of spray mix.</p>
Annual Ryegrass	<i>Lolium rigidum</i>		
Barley Grass	<i>Hordeum leporinum</i>		
Barnyard Grass	<i>Echinochloa crus-galli</i>		
Brome Grass	<i>Bromus</i> spp.		
Caltrop	<i>Tribulus terrestris</i>		
Canary Grass (Annual Phalaris)	<i>Phalaris</i> spp.		
Capeweed	<i>Arctotecta calendula</i>		
Cereals	Volunteer barley, oats, sorghum, wheat		
Chickweed	<i>Stellaria media</i>		
Cobblers Pegs	<i>Bidens pilosa</i>		
Deadnettle	<i>Lamium amplexicaule</i>		
Furnitory	<i>Fumaria officinalis</i> <i>F. muralis</i>		
Ground Cherry	<i>Physalis ixiocarpa</i>		
Lesser Swinecress	<i>Coronopus didymus</i>		
Liverseed Grass	<i>Urochloa panicoides</i>		
Milkthistle (Sowthistle)	<i>Sonchus oleraceus</i>		
Mintweed	<i>Salvia reflexa</i>		
Paradoxa Grass	<i>Phalaris paradoxa</i>		
Paterson's Curse	<i>Echium plantagineum</i>		
Pigweed	<i>Portulaca oleracea</i>		
Potato Weed	<i>Galinsoga parviflora</i>		
Saffron Thistle	<i>Carthamus lanatus</i>		
Silver Grass	<i>Vulpis</i> spp.		
Spear Thistle	<i>Cirsium vulgare</i>		
Spiny Burr Grass	<i>Cenchrus</i> spp.		
Spiny Emex (Doublegee)	<i>Emex australis</i>		
Spurge	<i>Euphorbia</i> spp.		
Sub-Clover	<i>Trifolium subterraneum</i>		
Thornapple	<i>Datura</i> spp.		
Wild Mustard	<i>Sisymbrium officinale</i>		
Wild Oats	<i>Avena</i> spp.		
Wild Turnip	<i>Brassica tournefortii</i>		
Winter Grass	<i>Poa annua</i>		
Variegated Thistle	<i>Silybum marianum</i>		

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

WITHHOLDING PERIOD:

WHEAT AND LEGUMES: DO NOT HARVEST GRAIN, GRAZE OR CUT FOR STOCK FOOD FOR 7 DAYS AFTER APPLICATION

ALL OTHER USES: NOT REQUIRED WHEN USED AS DIRECTED

GENERAL INSTRUCTIONS

TITAN Glyphosate 450 Herbicide is a non-volatile, non-selective water soluble herbicide which is absorbed by plant foliage and green stems and is translocated through the plant from point of contact and into the root system. The effects of the herbicide may not be visible for 3-7 days for annual weeds or 2-3 weeks for perennial weeds depending on water quality, weather conditions, weed species and rate used.

TITAN Glyphosate 450 Herbicide will control emerged weeds only and does not provide residual weed control. Ideally, weeds should be healthy and actively growing and, to obtain optimum results, should not have been recently sprayed with another herbicide.

TITAN Glyphosate 450 Herbicide can be deactivated by soil particles and hard water containing calcium salts. Use only clean, fresh water for making up spray solutions, preferably rainwater or local authority water.

DO NOT apply TITAN Glyphosate 450 Herbicide to wet plants or if heavy rainfall is expected within 6 hours. Avoid spraying at night if rain is expected the next morning.

TITAN Glyphosate 450 Herbicide is recommended for control of emerged weeds prior to crop establishment as part of a conservation tillage operation. With heavy weed growth, sowing should be delayed until weed decay and soil conditions allow formation of a satisfactory seedbed.

CROP ESTABLISHMENT

TITAN Glyphosate 450 Herbicide is recommended for the control of emerged weeds prior to crop establishment. However, suitable cultivation and/or sowing procedures are required to provide seedbed conditions favourable for crop germination and development. Early spraying 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 1 day after spraying.

However, in situations of heavy weed growth, sowing should be delayed until weed decay and soil conditions allow formation of a suitable seedbed. Incorporation or trashing of green or decaying vegetation and roots into seedbeds by cultivation/sowing may cause retarded crop emergence especially in cold and/or wet conditions. Vegetation may be reduced by grazing and/or cultivation but trash should be left on the surface. Avoid use of pre-emergence herbicides where label directions advise a risk of retarded crop emergence and in marginal seedbed conditions pay particular attention to correct seeding depth.

MIXING

DO NOT mix, store or apply this product or spray solutions of this product in galvanised or unlined steel containers or spray tanks, since a highly flammable gas may be formed. Use stainless steel, aluminium, brass, copper, fibreglass, plastic or plastic-lined containers or spray tanks.

TITAN Glyphosate 450 Herbicide readily mixes with clean water. Use only clean, fresh water free from soil particles or calcium/magnesium salts (i.e. do not use hard water). If water is acidic use a recognised buffering agent. Spray solution should be used within a maximum of five days to avoid loss of activity. Ensure the spray tank is free of any residue from previous spray products.

Fill spray tank with half required volume of clean, fresh water and then add measured amount of TITAN Glyphosate 450 Herbicide as per Directions for Use (rate). Agitate well and fill with balance of water adding surfactant near end of filling with hose below surface to prevent excessive foaming. Remove hose when desired volume is reached to avoid siphoning. When adding compatible pesticides/additives add these first in a half full tank with agitation and then add TITAN Glyphosate 450 Herbicide with the remaining water volume and, finally, surfactant as above, mixing thoroughly.

DO NOT use mechanical agitators as these may cause excessive foaming.

DO NOT mix with spraying oils, agricultural chemicals or any other material except as directed on the label.

TANK MIXTURES/COMPATIBILITY

TITAN Glyphosate 450 Herbicide may be tank mixed with the following pesticides and additives with attention to their labels for specific restraints, withholding periods and directions for use requirements to be observed.

Herbicides:

- **Flowable Atrazine:** For knockdown and residual weed control, addition of ammonium sulphate is required to overcome antagonism. (See note below). Observe all current restrictions on Atrazine use. DO NOT use this tankmix on Barnyard Grass. DO NOT apply this mix by aerial application.
- **Flowable Simazine:** For knockdown and residual control of annual weeds, addition of ammonium sulphate is required to overcome antagonism (see note below).

- **2,4-D Ester:** For improved control of certain broadleaf weeds. Observe regional restrictions.
- **Dicamba:** For improved control of clover, medics and sorrel as per label directions.
- **Chlorsulfuron:** For knockdown and residual weed control in fallow/crop. Observe plant back periods as per label.
- **Metsulfuron-methyl:** For knockdown weed control in fallows and prior to planting certain winter cereals. Observe crop safety/crop rotation recommendations.
- **Oxyfluorfen:** Mixture requires a specific compatibility agent, seek advice from labels.

Note: Addition of ammonium sulphate at the rate of 2kg/100L spray solution is recommended to overcome antagonism. This mixture is also useful for improving the performance of TITAN Glyphosate 450 Herbicide under adverse environmental conditions such as cool cloudy weather. Ammonium sulphate may be corrosive to metal parts of spray equipment.

Insecticides:

- Dimethoate
- Omethoate
- Fenitrothion
- Chlorpyrifos

Other insecticides have not been compatibility tested.

APPLICATION INFORMATION

TITAN Glyphosate 450 Herbicide is a non-selective, translocated herbicide. Direct contact, or even drift, may cause severe injury or destruction to any growing crop or other desirable plants including trees.

Boom equipment: Application of this product in low spray volumes (25-100L/ha) is recommended. Fan nozzle equipment is recommended, using pressures in the range 240-280kPa. Boom height must be set to ensure double overlap of nozzle patterns at the top of the weed canopy.

Aerial Equipment: Aerial application should only be in pasture or fallow crop situations prior to establishment of field or fodder crops or new pasture and for pre harvest application for sorghum crops.

DO NOT use in intensive cropping situations.

Use registered rates up to a maximum of 3.2L/ha and for Micronair and boom equipment apply in a minimum spray volume of at least 15L/ha. Average droplet size should be 250-350 micron diameter with a swath width of 15-17 metres. DO NOT apply by aircraft in temperatures above 35°C.

Aerial Application on hilly terrain: Increase water volume to 30-80L/ha with droplet size to at least 300 micron VMD on hilly terrain.

Aerial Application under hot conditions: When applying in temperatures above 25°C, increase water volume to at least 30L/ha and droplet size to at least 300 micron VMD. Avoid conditions which may result in drift such as wind over 8km/hr and inversion conditions or equipment producing droplets of 150 micron or less.

MAINTENANCE AND CLEANING

Thoroughly flush tanks, pumps and nozzles with clean fresh water after each day's spraying.

RESISTANT WEEDS WARNING

TITAN Glyphosate 450 Herbicide is a member of the glycine group of herbicides. TITAN

GROUP	9	HERBICIDE
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Glyphosate 450 Herbicide has the inhibitor of EPSP synthase mode of action. For weed resistance management TITAN Glyphosate 450 Herbicide is a group 9 herbicide. Some naturally occurring weed biotypes resistant to TITAN Glyphosate 450 Herbicide and other inhibitors of EPSP synthase 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 TITAN Glyphosate 450 Herbicide or other inhibitors of EPSP synthase herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, TITAN AG Pty Ltd accepts no liability for any losses that may result from the failure of TITAN Glyphosate 450 Herbicide to control resistant weeds.

DO NOT however assume resistance without first reviewing the method of application, timing, water quality and weather conditions.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT apply under meteorological conditions or from spraying equipment that could be expected to cause spray drift onto nearby susceptible plants, adjacent crops, crop lands or pastures. DO NOT apply prior to transplanting tomato seedlings.



PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

DO NOT contaminate dams, rivers or streams with the product or used container. DO NOT apply to weeds growing in or over water. DO NOT spray across open bodies of water.

STORAGE AND DISPOSAL

20L and 200L Containers: Store in the closed original container in a cool, well-ventilated area. Avoid prolonged storage in direct sunlight. DO NOT contaminate seed, feed or foodstuff. DO NOT mix, store or apply this product or spray solutions of this product in galvanised or unlined steel containers or spray tanks, since a highly flammable gas may be formed. Use stainless steel, aluminium, brass, copper, fibreglass, plastic or plastic-lined containers or spray tanks. 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 bury empty containers in a local authority landfill. If no land fill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

100L, 110L, 120L and 220L Containers: 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 TITAN AG Pty Ltd.

1000L and Bulk: 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 TITAN AG Pty Ltd should be notified immediately. This minibulk/bulk container is reusable and remains the property of TITAN AG 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 TITAN AG Pty Ltd for cleaning, relabelling and refilling.

SAFETY DIRECTIONS

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

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131126; New Zealand 0800 764 766.

SAFETY DATA SHEET

Additional information is listed in the safety data sheet (SDS). A safety data sheet for TITAN Glyphosate 450 Herbicide is available from TITAN AG Pty Ltd on request. Call Customer Service on (02) 9999 6655 or visit www.titanag.com.au

CONDITIONS OF SALE: TITAN AG Pty Ltd shall not be liable for any loss injury damage or death whether consequential or otherwise whatsoever or howsoever arising whether through negligence or otherwise in connection with the sale supply use or application of this product. The supply of this product is on the express condition that the purchaser does not rely on TITAN AG's skill or judgment in purchasing or using the same and every person dealing with this product does so at his own risk absolutely. No representative of TITAN AG Pty Ltd has any authority to add to or alter these conditions.

Additional statements required by Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia: Causes serious eye damage. Toxic to aquatic life with long lasting effects. Precautionary Statements: Avoid release to the environment. Wear eye protection / face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Collect spillage. Dispose of contents/container in accordance with local/regional/national regulations.

