CAUTION

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

SWAN

GLYPHOSATE 450

Herbicide

ACTIVE CONSTITUENT: 450 g/L GLYPHOSATE
present as the isopropylamine salt

GROUP 9 HERBICIDE

Swan Glyphosate 450 Herbicide is a non-residual herbicide for the control of a broad range of Annual and Perennial Weeds.

IMPORTANT: READ THE ATTACHED LEAFLET BEFORE OPENING OR USING THIS PRODUCT

Swan Chemical Holdings Pty. Ltd.
Address: u2/9 Glossop St Wangara WA 6065.
PH: 1300 289 520 E: info@swanchemicalholdings.com
W: swanchemicalholdings.com

20L ☐
110L ☐
1000L ☐

SWAN

GLYPHOSATE 450 HERBICIDE

STORAGE AND DISPOSAL

DO NOT store the product in galvanised steel or unlined steel containers, as the product may react to produce hydrogen gas, which in turn could form a highly combustible gas that could explode if ignited by an open flame, or spark, lighted cigarette etc.

Store in the closed original container in a well ventilated as cool as possible. DO NOT store for prolonged periods in direct sunlight.

Triple-rinse empty 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 for appropriate disposal 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.

For refillable containers

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

SAFETY DIRECTIONS

Will irritate the eyes and skin. Avoid contact with eyes and skin. When using together with other products, consult their label safety directions. When opening the container and preparing and using the prepared product, wear cotton overalls buttoned to the neck and wrist or equivalent clothing and elbow-length chemical resistant gloves. In addition, wear face shield or goggles when mixing and loading. When using controlled droplet applicator, wear protective waterproof clothing and impervious footwear. Wash hands after each day's use. Wash gloves and face shield or goggles and contaminated clothing.

FIRST AID INSTRUCTIONS

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26.

SAFETY DATA SHEET

Additional information is listed in the Safety Data Sheet (SDS) that can be obtained from the supplier.

LIMIT OF WARRANTY AND LIABILITY

Swan Chemical Holdings Pty Ltd. ('Swan') warrants that this material conforms to the chemical description on the label. As the use of product sold is beyond the control of Swan, no responsibility whatsoever for any consequences is accepted in respect of this product, save those non-excludable conditions implied by any State and Federal legislation or law of a Territory. Not for repackaging or reformulation. No license under any non-Australian patent is granted or implied by purchase of this container.

Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. Toxic to aquatic life with long lasting effects. Use only outdoors or in a well-ventilated area. Avoid breathing mist/vapours/spray. Avoid release to the environment. Wear protective gloves, protective clothing, eye protection and face protection. Wash all exposed external body areas thoroughly after handling.

IN EMERGENCY DIAL	24HR EMERGENCY RESPONSE:
000	AU +61 1800 951 288
POLICE OR FIRE BRIGADE	NZ +64 800 700 112

APVMA Approval No: .: 93957/141076

DOM:

Batch No:

SWAN

CAUTION

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

SWAN

GLYPHOSATE 450

Herbicide

ACTIVE CONSTITUENT: 450g/L GLYPHOSATE
present as the isopropylamine salt

GROUP	9	HERBICIDE

Swan Glyphosate 450 Herbicide is a non-residual herbicide for the control of a broad range of Annual and Perennial Weeds

IMPORTANT: READ THE ATTACHED LEAFLET BEFORE OPENING OR USING THIS PRODUCT

APVMA Approval No: 93957/141076

Swan Chemical Holdings Pty. Ltd.
Address: u2/9 Glossop St Wangara WA 6065.
PH: 1300 289 520 E: info@swanchemicalholdings.com
W: swanchemicalholdings.com

DIRECTIONS FOR USE

RESTRAINTS

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

DO NOT treat weeds under poor growing conditions or dormant conditions as occur in drought, waterlogging, disease, insect damage or following frost. Reduced control may also occur when treating weeds heavily covered with dust or silt. Rainfall occurring up to 6 hours after application may reduce effectiveness. Heavy rainfall within 2 hours of application may wash the chemical off the foliage and a repeat treatment may be required.

Annual Weed Control - All States

WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
Amaranth *(Amaranthus* spp.) Barley grass *(Hordeum leporinum)* Barnyard grass *(Echinochloa* spp.) Brome grass *(Bromus* spp.) Caltrop *(Tribulus terrestris)* Canary grass *(Phalaris* spp.) Capeweed *(Arctotheca calendula)* Cereals (Volunteer) Chickweed *(Stellaria media)* Cobbler's Peg *(Bidens pilosa)* Deadnettle *(Lamium amplexicaule)* Double Gee *(Emex australis)* Fumitory *(Fumaria officinalis)* Ground Cherry *(Physalis angulata)* Lesser Swinecress *(Coronopus didymus)* Liverseed grass *(Urochloa panicoides)* Mintweed *(Salvia reflexa)* Paradoxa grass *(Phalaris paradoxa)* Paterson's Curse *(Echium plantagineum)* Pigweed *(Portulaca oleracea)* Potato weed *(Galinsoga parviflora)* Ryegrass Annual *(Lolium rigidum)* Saffron Thistle *(Carthamus lanatus)* Silver grass *(Vulpia* spp.) Sow Thistle *(Sonchus oleraceus)* Spear Thistle *(Cirsium vulgare)* Spiny Burrgrass *(Cenchrus* spp.) Spurge *(Euphorbia* spp.) Sub-Clover *(Trifolium subterraneum)* Thornapple *(Datura* spp.) Wild Mustard *(Sisymbrium officinale)* Wild Oats *(Avena* spp.) Wild Turnip *(Brassica tournefortii)* Winter grass *(Poa annua)* Variegated Thistle *(Silybum marianum)*	**Boom:** 1.6 – 2.4 L/ha **Handgun:** 400 – 560 mL per 100 L of water **Knapsack:** 60 – 80 mL per 15 L of water	All weeds Spray actively growing plants. The taller the weed the higher the rate. As a guide, use the higher rate when weeds are higher than 15 cm. If residual activity is required, see section titled 'Compatibility'. To use a residual herbicide, use the herbicides that have been recommended as being compatible in accordance with their label. Use Swan Glyphosate 450 Herbicide at rates indicated in the adjacent column.

Perennial Weed Control

WEEDS CONTROLLED	STATE	RATE - Soil Type			CRITICAL COMMENTS
		Boom L/ha	Knapsack mL/15 L	Handgun vol/100 L	
Bent grass *(Agrostis tenuis)*	Vic, Tas only	2	60	400 mL	Apply to actively growing plants in late spring when they have some seed head development but before summer drought stress. Bent grass should NOT be grazed heavily at spraying. Follow-up management is required to limit seedling re-establishment. Full disturbance with tyned implement should follow 10-21 days after spraying. Application of this product should be followed by a summer crop and/or by re-seeding pasture or crop the following autumn.
Blady grass *(Imperata cylindrica)*	Qld, NSW only	7.2	160	1 L	Spray at head stage while plants are in active growth stage.
Carpet grass *(Axonopus* spp)	All States	2.4	60	400 mL	Spray at early head stage while in active growth stage.
Cocksfoot *(Dactylis glomerata)*	All States	2.4	80	560 mL	Spray at early head stage while in active growth stage.
Couch *(Cynodon dactylon)*	All States	7.2	160	1 L	Spray at early head stage (late Spring).
Cumbungi *(Typha* spp.)	All States	7.2	160	1 L	Spray during Summer or Autumn period during the heading stage. Except for Tasmania, Wiper equipment can be used. Refer to information on 'Application Equipment' section of the label. DO NOT apply to weeds growing in or over water. DO NOT spray across bodies of water and DO NOT allow spray to enter the water. DO NOT allow water to return to dry channels or drains within 4 days of application.
Flatweed (Cat's Ear) *(Hypochaeris radicata)*	All States	2.4	80	560 mL	Spray at early flowering to fully developed rosettes.
Glyceria *(Glyceria maxima)*	Tas only	4.8	120	800 mL	Spray at fully headed stage in late Summer/Autumn. Add surfactant at recommended rate. . DO NOT apply to weeds growing in or over water. DO NOT spray across bodies of water and DO NOT allow spray to enter the water. DO NOT allow water to return to dry channels or drains within 4 days of application.
Guinea grass *(Panicum maximum)*	All States	7.2	160	1 L	Spray at early head stage. Refer to 'Application Equipment' section of the label: sub-heading 'Wiper Equipment' as it can also be used.

WEEDS CONTROLLED	STATE	RATE - Soil Type			CRITICAL COMMENTS
		Boom L/ha	Knapsack mL/15 L	Handgun vol/100 L	
Hoary Cress *(Cardaria draba)*	Vic, NSW only	1.2	60	400 mL	Spray at late rosette to flowering stage, late July to September. At this time of year ensure frosts, waterlogging or possibly drought stress are not a restraint as plants need to be in active growth stage. Refer to 'Wiper Equipment' section of this leaflet, if this use technique can be applied to this situation.
Johnson grass *(Sorghum halepense)*	All States	4.8	120	800 mL	Spray at early head stage when plants are actively growing or refer to 'Wiper Equipment' section of this leaflet, if that application technique is to be used on Johnson grass.
Kangaroo grass *(Themeda australis)*	All States	4.8	120	800 mL	Spray at early head stage when plants are actively growing.
Kikuyu grass *(Pennisetum clandestinum)*	All States	4.8	120	800 mL	Spray at early head stage when plants are actively growing.
Nutgrass *(Cyperus rotundus)*	All States	4.8	120	800 mL	Non-cultivated situations.
		2.4 followed by 2.4	80 followed by 80	560 mL followed by 560 mL	If spraying is to be done on crop growing land, apply first spray in February, which is about the time that 20-25% of plants have reached heading stage. Then a second application is necessary about 2 months later, which gives adequate time for full emergence to occur. Because underground runners are broken up by cultivation, individual nuts may spring up and repeat treatments may be needed to obtain a total control situation. On land that is primarily grazing or urban, spray in February/April period, so long as correct growing conditions are present. Again ensure that 20-25% of plants have reached the head stage.
Paragrass *(Brachiara mutica)*	All States	7.2	160	1 L	Spray at early head stage when plants are in active growth. DO NOT apply to weeds growing in or over water. DO NOT spray across bodies of water and DO NOT allow spray to enter the water. DO NOT allow water to return to dry channels or drains within 4 days of application.
Paspalum *(Paspalum dilatatum)*	All States	4.8	120	800 mL	Spray at early head stage when plants are in active growth.
Phalaris *(Phalaris aquatica)*	SA, Vic, NSW only	2.4 – 4.8	60 –120	400 mL to 1 L	For medium to longer-term control, use the high rates while plants are in active growth phase during Winter/ Spring. The lower rates may be used in conjunction with burning (fire breaks). This will give a brown out and better burning conditions. Leave for 2-3 weeks after spraying before burning.

WEEDS CONTROLLED	STATE	RATE - Soil Type			CRITICAL COMMENTS
		Boom L/ha	Knapsack mL/15 L	Handgun vol/100 L	
Phragmites Common Reed *(Phragmites australis)*	All States	7.2	160	1 L	If the Wiper technique is to be used, refer to 'Wiper Equipment' section of this leaflet. Spray when plants are getting close to early head stage and actively growing. Spray symptoms may not be observed for a season or more. DO NOT apply to weeds growing in or over water. DO NOT spray across bodies of water and DO NOT allow spray to enter the water. DO NOT allow water to return to dry channels or drains within 4 days of application.
Plantains *(Plantago* spp)	All States	2.4	80	560 mL	Spray when plants have reached the early head stage. Bear in mind that Plantains are slow to develop toxicity symptoms.
Prairie grass *(Bromus unioloides)*	All States	4.8	120	800 mL	Spray at early head stage while plants are in active growth phase.
Qld Blue grass *(Dichanthium sericium)*	All States	4.8	120	800 mL	Spray at early head stage while plants are in active growth phase.
Redleg grass *(Bothriochloa macra)*	All States	4.8	120	800 mL	Spray at early head stage while plants are in active growth phase.
Rhodes grass *(Chloris gayana)*	All States	4.8	120	800 mL	Spray at early head stage while plants are in active growth phase.
Rope Twitch *(Agropyron repens)*	Tas, Vic only	4.8	120	800 mL	Leave ground in a dormant state for 8 months prior to spraying in late Summer/Autumn, so that the foliage to uptake the product is fully available (at least 20cm in height). Ensure drought stress conditions do not exist at time of spraying.
Rushes *(Juncus* spp)	All States	See Critical Comments			Use Wiper technique ensuring a high percentage of green matter is present. Refer to section of this leaflet entitled 'Wiper Equipment' for directions for use. DO NOT apply to weeds growing in or over water. DO NOT spray across bodies of water and DO NOT allow spray to enter the water. DO NOT allow water to return to dry channels or drains within 4 days of application.
Sedge – Tall *(Cyperus gracilis)*	NSW, Tas, Vic only	See Critical Comments			Use Wiper technique ensuring a high percentage of green matter is present. Refer to section of this leaflet entitled 'Wiper Equipment' for directions for use. DO NOT apply to weeds growing in or over water. DO NOT spray across bodies of water and DO NOT allow spray to enter the water. DO NOT allow water to return to dry channels or drains within 4 days of application.

WEEDS CONTROLLED	STATE	RATE - Soil Type			CRITICAL COMMENTS
		Boom L/ha	Knapsack mL/15 L	Handgun vol/100 L	
Silverleaf Nightshade *(Solanum elaegnifolium)*	NSW only	-	240	1.6 L	Spray actively growing plants when good soil moisture is present. Spray when plants are in the late flowering to berry stage. Follow up sprays will be required to maximise control.
Sorrel *(Rumex acetosella)*	All States	4.8	120	800 mL	Spray at bud stage so long as plants are in an active growth phase. See also 'Conservation Tillage' section of this leaflet.
Soursob *(Oxalis pes-caprae)*	NSW, Vic, SA, WA, Tas only	1.2	60	400 mL	Best results can be obtained by late Winter/early Spring sprays. Ensure foliage is in a healthy, actively growing stage at time of spraying. See also 'Conservation Tillage' section of this leaflet.
St John's Wort *(Hypericum perforatum)*	All States	2.4	60	400 mL	Spray at the flowering to post-flowering stage in Summer/ Autumn period. As spraying is only part of the total management concept of pasture improvement, follow-up sprays may be needed.
Thistle Artichoke *(Cynara cardunculus)*	Vic, SA only	2.4	60	400 mL	Spray when plants have reached rosette/early-heading stage. Plants should be free of soil deposits, particularly when spraying along roadsides.
Thistle Californian *(Cirsium arvense)*	Vic, Tas only	4.8	120	800 mL	Spray at the flowering stage, As spraying is only part of the total management concept of pasture improvement, follow-up sprays may be needed.
Water Couch *(Paspalum distichum)*	All States	2.4	80	560 mL	Spray actively growing plants in February/March period. DO NOT apply to weeds growing in or over water. DO NOT spray across bodies of water and DO NOT allow spray to enter the water. DO NOT allow water to return to dry channels or drains within 4 days of application.
Yorkshire Fog *(Holcus lanatus)*	All States	2.4	80	560 mL	Spray when plants have reached the early heading stage and are in an active growth phase.

CONSERVATION TILLAGE SITUATIONS

Includes directions for use for:

- Land Preparation Prior to Sowing (Winter crops, Summer crops, fallow)
- Pasture Renovation
- Pasture Topping
- Pasture Manipulation
- Rice (Direct Drilling)
- Sugarcane (Ratoon control)

Land Preparation Prior to Sowing

SITUATION	STATE	WEEDS CONTROLLED	RATE Vol/ha	CRITICAL COMMENTS
SOUTHERN AUSTRALIA Where weed control is desired prior to sowing a pasture or crop and prior to disturbing the area with cultivation or tyned implements at sowing	NSW, SA, WA, Vic only	Amsinkia *(Amsinkia* spp.)	<12 cm diameter 800 mL -1 L >12 cm diameter 1 – 1.25 L	**ALL WEEDS** Spray when weeds are actively growing. Ensure regrowth is 6-8 cm in height if intense grazing occurred prior to spray time. Use higher rate if intensive grazing occurred prior to spraying OR if sparing is being carried out late in the season OR cold/overcast conditions are present at the time of spraying. **CULTIVATION OR SOWING** This may start 1 - 21 days after spraying. If Dock, Phalaris, Skeleton weed, Soursob or Sorrel are present do not cultivate or sow for at least 7 days after spraying. Product will normally only give knockdown reduction in plant numbers and seasonal suppression of these weeds. If cultivation does not occur within 21 days re-treatment may be necessary. **TANK MIXTURES** Refer to section entitled 'Compatibility' of this leaflet if it is planned to spray in conjunction with a herbicide for residual control, improved performance, or if you wish to use an insecticide. Read the label carefully for conditions of use.
		Annual Phalaris *(Phalaris paradoxa)*, Annual Ryegrass *(Lolium rigidum)*	800 – 1 L pre tillering 1 – 1.25 L post tillering	
		Barley grass *(Hordeum leporinum)*, Brome Grass *(Bromus* spp.)	400 – 800 mL pre tillering 800 mL – 1.2 L post tillering	
		Capeweed *(Arctotheca calendula)*	<8 cm diameter 400 - 800 mL >8 cm diameter 800 mL – 1 L	
		Cereals (Volunteer)	400 - 800 mL pre tillering 800 mL - 1 L post tillering	
		Dock Seedlings *(Rumex obtusifolius)*	800 mL – 1.2 L	
		Doublegee *(Emex australis)*	<8 cm diameter 400 - 800 mL >8 cm diameter 800 mL – 1 L	
		Fumitory *(Fumaria officinals)*	<12 cm diameter 800 mL -1 L >12 cm diameter 1 – 1.2 L	
		Lupins (volunteer) *(Lupins albus)*		
		Paterson's Curse/Salvation Jane *(Echium plantagineum)*		

SITUATION	STATE	WEEDS CONTROLLED	RATE Vol/ha	CRITICAL COMMENTS
SOUTHERN AUSTRALIA Where weed control is desired prior to sowing a pasture or crop and prior to disturbing the area with cultivation or tyned implements at sowing *cont'd*	NSW, SA, WA, Vic only	Perennial Phalaris *(Phalaris aquatica)*	1.2 L	**ALL WEEDS** Spray when weeds are actively growing. Ensure regrowth is 6-8 cm in height if intense grazing occurred prior to spray time. Use higher rate if intensive grazing occurred prior to spraying OR if sparing is being carried out late in the season OR cold/overcast conditions are present at the time of spraying. **CULTIVATION OR SOWING** This may start 1 - 21 days after spraying. If Dock, Phalaris, Skeleton weed, Soursob or Sorrel are present do not cultivate or sow for at least 7 days after spraying. Product will normally only give knockdown reduction in plant numbers and seasonal suppression of these weeds. If cultivation does not occur within 21 days re-treatment may be necessary. **TANK MIXTURES** Refer to section entitled 'Compatibility' of this leaflet if it is planned to spray in conjunction with a herbicide for residual control, improved performance, or if you wish to use an insecticide. Read the label carefully for conditions of use.
		Saffron Thistle *(Carthamus lanatus)*	<12 cm diameter 800 mL -1.2 L
		Scotch Thistle *(Onopordum acanthium)*	<12 cm diameter 800ml – 1 L
		Silver Grass *(Vulpia* spp.)	800 mL – 1 L pre tillering 1 – 1.25 L post tillering
		Skeleton weed *(Chandrilla juncea)*	1.2 L	Skeleton Weeds: Spray only rosettes that have fully emerged (NSW only)
		Sorrel *(Rumex acetosella)*		**ALL WEEDS - SUCCCESFUL CROP ESTABLISHMENT** Early sprays to control young weeds will lead to establishing an ideal seed bed. If weed growth is heavy, sowing should be delayed until matter has decayed as the emerging crop shoots may be smothered and set back. Light cultivation to leave decaying matter on the surfacer may help. If using residual type pre-emergent herbicides, seek out label directions that advise of risks associated with crop emergence.
		Spear Thistle *(Cirium vulgare)*	<12 cm diameter 800 mL -1 L >12 cm diameter 1 – 1.2 L
		Soursob *(Oxalis pes-caprae)*	1.2 L
		Sub-Clover *(Trifolium subterraneum)*	
		Variegated Thistle *(Silybum marianun)*	
	Tas only	Annual weeds	1.2 L	Surfactant is recommended to be added. Where White clover, Sorrel and Dock, are present, add 1 L/ha of dicamba (200 g/L) in accordance with recommendations on the dicamba label.
		Perennial weeds	2.4L	

SITUATION	STATE	WEEDS CONTROLLED	RATE Vol/ha	CRITICAL COMMENTS
SOUTHERN AUSTRALIA Where weed control is desired prior to sowing a SUMMER CROP or prior to the preparation of a fallow	NSW, SA, WA, Vic only	Annual Ryegrass *(Lolium rigidum)*	1.2 – 1.6 L	**ALL WEEDS** Spray when weeds are actively growing. Ensure regrowth is 6-8 cm in height if intense grazing occurred prior to spraying. Add wetting agent to spray solutions at the recommended rate if Ryegrass is present. Use higher rates under the following conditions. • Grasses - full tillering • Broadleaf Weeds – stem elongation or budding. Lower rates should be used on younger stages of the weeds or where cultivation is to follow within 3 weeks. **TANK MIXTURES** Refer to section entitled 'Compatibility' in this leaflet if it is planned to spray in conjunction with a residual herbicide. Read the label carefully for conditions of use. **HOARY CRESS** Spray from late rosette to early flowering stage. **SOURSOB** Spray at tuber exhaustion.
		Barley grass *(Hordeum leporinum)*	800 mL – 1.2 L	
		Brome grass *(Bromus* spp.)	1.2 – 1.6 L	
		Capeweed *(Arctotheca calendula)*		
		Cereals (Volunteer)	800 mL – 1.2 L	
		Hoary cress *(Cardaria draba)*	1.2 L	
		Paterson's Curse/Salvation Jane *(Echium plantagineum)*	1.2 – 1.6 L	
		Saffron Thistle *(Carthamus lanatus)*		
		Scotch Thistle *(Onopordum acanthium)*		
		Silver Grass *(Vulpia* spp.)		
		Spear Thistle *(Cirium vulgare)*		
		Soursob *(Oxalis pes-caprae)*	1.2 L	
		Wild Mustard *(Sisymbrium officinale)*	400 mL – 800 mL	
		Wild Oats *(Avena* spp.)	800 mL – 1.2 L	
		Wild Radish *(Rhapanus raphanistrum)*	1.2 – 1.6 L	
		Wild Turnip *(Brassica tournefortii)*		
NORTHERN AUSTRALIA Where weed control is desired prior to sowing a SUMMER CROP or WINTER CROP or in FALLOW situations	NSW, Qld only	Amaranth *(Amaranthus macrcarpus)*	800 mL – 1.2 L	
		Annual Ground Cherry *(Physalis angulata)*		After elongation or budding, use the higher rate.

SITUATION	STATE	WEEDS CONTROLLED	RATE Vol/ha	CRITICAL COMMENTS
NORTHERN AUSTRALIA Where weed control is desired prior to sowing a SUMMER CROP or WINTER CROP or in FALLOW situations *cont'd*	NSW, Qld only	Annual Phalaris *(Phalaris paradoxa)*	400 mL – 800 mL	**ALL WEEDS** Spray when weeds are actively growing. Ensure regrowth is 6-8 cm in height if intense grazing occurred prior to spray time. DO NOT Spray weeds under stress from low moisture, frost, cold, disease or waterlogging. Note that Barnyard Grass and Liverseed Grass are particularly prone to moisture stress. **RATE SELECTION** Use lower rate on young weeds. Increase to higher rates as grasses gain full tillering or as broadleaf weeds gain elongation/budding. At more advanced stages, some broadleaf weeds need a higher rate range or addition of 2,4-D. **TANK MIXTURES** Read label directions, plantback and withholding periods and safety directions. See section entitled 'Compatibility' in this leaflet. **CROP ESTABLISHMENT** Sowing should not proceed until conditions allow the formation of a satisfactory seed bed. **ALL WEEDS –AERIAL APPLICATION** See section entitled 'For Aerial Equipment' in this leaflet for instructions for use in high temperatures and dry conditions. DO NOT apply this product when the temperature exceeds 30°C.
	Qld only	Australian Bluebell *(Wahlenbergia gracilis)*	800 mL – 1.2 L	
	NSW, Qld only	Barley Grass *(Hordeum leporinum)*	400 – 800 mL	
		Barnyard grass *(Echinochloa* spp.)	800 mL – 1.2 L	
		Caltrop *(Tribulis terrestris)*		
		Cereals (volunteer)	400 – 800 mL	
		Cudweed *(Gnaphalium* spp.)	800 mL – 1.2 L	
		Fumitory *(Fumaria officinalis)*		
		Lovegrass *(Eragostis curvula)*		
		Mexican Poppy *(Argemone ochroleuca)*		
		Mintweed *(Salvia reflexa)*		
		New Zealand Spinach *(Teratogonia tetragonoides)*		
		Noogoora Burr *(Xanthium pungens)*		
		Saffron Thistle *(Carthamus lanatus)*		
		Sow Thistle *(Sonchus oleraceaus)*		After stem elongation or budding, use the higher rate.
		Sorghum (volunteer)		
		Spear Thistle *(Cirium vulgare)*		
		Spurge *(Euphorbia* spp.)		
		Sunflower (volunteer) *(Helianthus annuus)*		
		Turnip Weed *(Rapistrum rugosum)*		After stem elongation or budding, use the higher rate.
		Variegated Thistle *(Silybum marianun)*		
		Wild Lettuce *(Lactuca serriola)*		After stem elongation or budding, use the higher rate.
		Wild Oats *(Avena* spp.)	400 mL – 1.2 L	
		Wild Turnip *(Brassica tournefortii)*	800 mL – 1.2 L	After stem elongation or budding, use the higher rate.

NB: Refer to section entitled 'For Aerial Equipment' in this leaflet if aerial application is to be used. DO NOT apply this product when the temperature exceeds 30°C.

Pasture Renovation

SITUATION	STATE	APPLICATION RATES	CRITICAL COMMENTS
A high predominance of Poa tussock *(Poa labillardieri)* associated with annual weed situations	Qld, NSW, Vic, Tas only	2.4 – 3.2 L/ha	**TIMING:** Graze heavily, then remove stock at least 2 weeks before spraying to allow new growth. Apply to actively growing plants after the autumn break but before heavy frosts (March – May). **APPLICATION:** Increase to the high-rate levels may give more effective reductions. If using aerial Equipment, refer to relevant section of this leaflet. **FOLLOW-UP MANAEMENT:** Sowing may start from 2 weeks after spraying It is essential that correct follow-up pasture establishment and management occurs after treatment. Spot treatment will limit re-infestation.
A high predominance of Bent grass (Agrostis tenuis) associated with annual weed situations	Vic, Tas only	2 L/ha	This rate will give control/suppression prior to planting improved pasture or crops. Spray in late spring when weeds are in active growth phase and have a degree of seed head development. Remove stock to ensure full leaf growth. 2 - 3 weeks after spraying use a tyned implement to disturb the soil and break up vegetative matter. Follow-up by planting a summer crop and/or re-seeding pasture or crop next autumn.

Pasture Topping

SITUATION	STATE	WEEDS CONTROLLED	APPLICATION RATES	CRITICAL COMMENTS
Pasture toping to reduce seed set of Annual grasses ad Capeweed *(Arctotheca calendua)*	NSW, Vic, SA, WA only	Annual Ryegrass *(Lolium rigidum)*	360 mL/ha	Apply at flowering stage and prior to plants 'haying off'.
		Barley grass *(Hordeum leporinum)*	240 - 360 mL/ha	Apply at the head to milky dough stage.
		Brome grass *(Bromus* spp.)		
		Capeweed *(Arctotheca calendula)*		Apply at flowering stage and prior to plants 'haying off'.
		Silver grass *(Vulpia* spp.)		Apply at the head to milky dough stage.
				ALL WEEDS: Ensure even regrowth by removing all stock prior to treatment. If pasture legumes are present their populations may be reduced. DO NOT apply if clover or medic crops intended for seed are present. Water volumes of 50 L/ha or less are preferable. If excess of this is required, add wetting agent at label rates.

Pasture Manipulation

SITUATION	STATE	WEEDS CONTROLLED	APPLICATION RATES	CRITICAL COMMENTS
Where certain pasture species need to be controlled or suppressed prior to the drilling of forage species or soybeans	NSW, Vic, WA only	Carpet grass *(Xonopus* spp)	1.1 – 4.8 L/ha	Use higher rates for control. Use lower rates for suppression.
		Kikuyu grass *(Pennisetum clandestinum)*		
		Paspalum *(Paspalum dilatatum)*		
	Qld only	Carpet grass *(Xonopus* spp)		
		Kikuyu grass *(Pennisetum clandestinum)*	500 mL – 4.8 L/ha	
		Paspalum *(Paspalum dilatatum)*	1.1 – 4.8 L/ha	

Rice (Direct drilling)

SITUATION	STATE	VARIETY	APPLICATION RATES	CRITICAL COMMENTS
Sites where direct drilling of rice is to be carried out and site sprayed prior to direct drilling	NSW only	Annual Phalaris (Canary grass) *(Phalaris* spp)	800 mL – 1 L/ha	**ALL WEEDS:** Site preparation should ensure that if grazing has taken place regrowth should be 6-8 cm tall before spraying. If drought conditions a present, a pre-watering prior to spraying is recommended. If Ryegrass is present, use a wetting agent at recommended rates. **WHEN TO SOW:** Direct drilling can be carried out 1 day to 2 weeks after spraying. If a residual herbicide is to be used, refer to products label instructions on mixtures and rice application.
		Annual Ryegrass *(Lolium rigidum)*		
		Barley grass *(Hordeum leporinum)*		
		Burr medic *(Medicago* spp)		
		Sub-clover *(Trifolium subterraneum)*		
		Winter grass *(Poa annua)*		

Sugarcane (Ratoon control)

SITUATION	STATE	WEEDS CONTROLLED	APPLICATION RATES	CRITICAL COMMENTS
Sites where control of Ratoon cane is required	Qld only	Q63, Q87, Q90, Q102, Q117, Q120, Q129, Q130, H56-752, Pindar, Triton	2.4 – 3.2 L/ha	**ALL VARIETIES:** Spray only if ratoons are in active phase and are 60 – 120 cm in height. DO NOT apply if plants are drought stressed or suffering effects of waterlogging. Ensure boom is at a height above the ratoon canopy that allows the correct overlap f the spray pattern. Use the higher rates for control. Use the lower rates for suppression if it is planned to follow up with cultivation.
		Q86, Q96, Q113	3.2 – 4.0 L/ha	
		Q115, Q122, Q94, Cassius	4.0 – 4.8 L/ha	
		NCQ310, Q107	4.8 - 7.2 L/ha	

Vine and Tree Crops

SITUATION	STATE	WEEDS CONTROLLED	RATE Vol/ha	CRITICAL COMMENTS
Nuts (including Almond, Pecan, Macadamia, Pistachio and Walnut), Pome fruit, Litchi, Stone fruit, Vineyards and Citrus fruit	All States	See specific weed tables in this leaflet	See specific weed tables in this leaflet for application rates	**ALL TREES AND VINES:** DO NOT spray near trees or vines less than 3 years old. DO NOT allow Wiper contact. **AVOCADO, BANANA, GUAVA KIWIFRUIT, LITCHI, MANGO, PAW PAW AND STONE FRUIT:** Spray drift can cause damage, if allowed to contact any part of the vine, palm, trunk or tree. Be careful to avoid contact with split bark on Kiwifruit and green stems on Paw Paw. Citrus, Olive, Pome fruit, Nuts and Vineyards do not allow spray to contact any part of the plant.
Avocado, Guva, Kiwifruit, Mango and Paw Paw	Qld, NSW only			
Bananas	Qld, NSW, WA only			

General Uses

SITUATION	STATE	WEEDS CONTROLLED	APPLICATION RATES	CRITICAL COMMENTS
Dry drains and channels, dry margins of dams, lakes and streams	All States	For Weeds Controlled refer to list of species under ANNUAL: WEED CONTROL and PERENNIAL WEED CONTROL in this leaflet	For Application rates refer to rates shown under ANNUAL: WEED CONTROL and PERENNIAL WEED CONTROL in this leaflet	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 and drains within 4 days of application.
Forestry				Use Situations include; • Prior to nursery establishment • Site preparation prior to planting • In established tree areas using shielded or directed sprays or selective wiper equipment • DO NOT allow spray or spray drift to come into contact with foliage or green bark of desirable trees as severe damage may occur • DO NOT allow wiper surface to come into contact with any apart of the tree.
Rights-of-way, domestic and public service areas, commercial and industrial areas and around buildings				This product does not provide residual control.

Onions

SITUATION	STATE	WEEDS CONTROLLED	APPLICATION RATES	CRITICAL COMMENTS
Post-planting or pre-emergent application	Tas only	For Weeds Controlled refer to list of species under ANNUAL: WEED CONTROL and PERENNIAL WEED CONTROL in this leaflet	800 mL/ha - 2.4 L/ha	Ensure that spraying is carried out well in advance of emergence of onion shoos (7 days). Otherwise, severe phytotoxicity will occur if onion plant comes into contact with herbicide. Take into consideration height and type of weeds present in determining the exact rate. For small annual weeds use lower rate levels and for larger annual weeds (as a guide greater than 15cm in height) and where perennial weeds are present, use the higher rates.

Pasture Situations

SITUATION	STATE	WEEDS CONTROLLED	APPLICATION RATES	CRITICAL COMMENTS
Where Boom applications are used in pasture control prior to re-seeding of improved pasture	All States	For Weeds Controlled refer to list of species under ANNUAL: WEED CONTROL and PERENNIAL WEED CONTROL in this leaflet	For Application rates refer to rates shown under ANNUAL: WEED CONTROL and PERENNIAL WEED CONTROL in this leaflet	See section Protection of Livestock, Wiper Equipment and Conservation Tillage' in this leaflet.

Row Crops (Cotton, Peanuts, Soybeans, Sugarcane)

SITUATION	STATE	WEEDS CONTROLLED	APPLICATION RATES	CRITICAL COMMENTS
Where Wiper equipment is used to control weeds in row crops.	Qld, NSW only	For Weeds Controlled refer to list of species under ANNUAL: WEED CONTROL and PERENNIAL WEED CONTROL in this leaflet	800 mL in 2 L water	See section entitled 'For Wiper Equipment' in this leaflet. Apply to weeds growing 15cm above the crop canopy or weeds growing between rows. DO NOT allow the product to come into direct contact with crops or solution to drip onto crops.

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

WITHHOLDING PERIOD: NOT REQUIRED WHEN USED AS DIRECTED

GENERAL INSTRUCTIONS

Product Description
Swan Glyphosate 450 Herbicide is translocated throughout the plant where it kills both foliage and roots. Ideally the best time to use the product is when target species are in a state of active growth, moderate climatic conditions are present, and plants are free of disease and dirt cover.
While cool and cloudy conditions can sometimes delay the appearance of chemical activity, it can generally be expected that symptoms of chemical effect will appear 2 to 7 days after spaying of annual species and 2 to 3 weeks after spaying perennial species.
The symptoms are demonstrated by a yellowing and accompanying wilting, progressing to brown-out.

Safety to Crops
DO NOT allow the product to come into contact with the foliage, fruit or green stems of desirable crops, plants or trees, as the nature of the chemical is non-elective. Some useful guidelines that can help in this regard are:
Don't use if the wind is blowing towards desirable plants in close proximity.
Avoid fine droplet settings (150 micron or less) when calibrating.
Avoid spraying in winds greater than 8 km/hr, still air and hot days.
While the product is rapidly inactivated on contact with the soil it is important certain factors are kept in mind:
Where there is a light presence of unwanted vegetative matter sowing can commence from 1 day after spraying.
Where the plant cover is heavy it is better to allow vegetative matter to decay prior to sowing as crop establishment may be retarded.

Spray Preparation
Make sure the spray tank is clean and residues from previous usage have been removed.
Half fill the spray tank with clean water, bearing in mind that less than perfect results may occur if water containing soil particles is used or hard water containing calcium salt. Glyphosate may be inactivated by water, which is contaminated with clay particles or soil.
Add the required amount of Swan Glyphosate 450 Herbicide as per the Direction for Use table.
Mix well keeping filling hose below surface to avoid foaming.
Add water to fill vat.
Remove hose from tank as soon as full to prevent back siphoning.

NB: DO NOT use mechanical agitators, as they cause excessive foaming. DO NOT add non-approved herbicides and insecticides.
NBB: Use only plastic or plastic lined, stainless steel, aluminium, copper, brass, or fibreglass tanks. Galvanised steel or unlined steel spray tanks can react with the product to hydrogen gas, which can form a combustible gas mixture, which can be flashed by ignition sources.

Surfactant
The addition of surfactant may improve weed control where water rates are high or product rates low. Suggested surfactant rates are 200 mL/100 L of 1000 g/L non-ionic surfactant or 250-500 mL of 700 g/L surfactant. DO NOT add any other agricultural chemicals, spraying oils, or other materials except as directed on the label.

Rainfall Effects
Heavy rain within 2 hours of spraying can mean that the chemical may be washed off the plant, with the result that the herbicide may not be totally effective. Respraying may be needed.
Normal rain up to 6 hours after application may reduce effectiveness.
Lack of rain, i.e., drought conditions, is not time to spray as vegetation will not be receptive to the uptake of chemical. Likewise, in waterlogged conditions or after frost similar comments apply.

Soil Persistence
The product is not persistent in soils and is rapidly broken down by microbes present in the soil as well as by hydrolysis caused by free standing moisture or soil moisture that may be present in soil particles. Should residual activity be needed refer to 'Compatibility Section' of this label.

Application Equipment

Types of Equipment
The following types of equipment may be used in applying Swan Glyphosate 450 Herbicide:
- Knapsack, Handgun, Boom, Wiper, and Aerial.

For Knapsack and Handgun Equipment
Maximum efficiency can be achieved by using a D6 spray plate and applying at a pressure of 400 – 700 kPa. As the product is translocated through contact points on the plant, good coverage is needed to maximise uptake by the plant. Volume used per given area will vary according to the density of the target species present.

For Boom Equipment
Maximum efficiency can be achieved by using fan nozzles at a pressure of 240 – 280 kPa. Water volumes per hectare of treated area can vary depending on density of the target species but no more than 200 litres would be necessary. In conservation tillage situations volumes in the 50 – 100 litre/ha range would suffice.

For Aerial Equipment
Using Micronair and boom equipment a medium to coarse droplet size is recommended. A swath width in the range of 15-17 metres is most appropriate for this form of spraying. Minimum spray volume would be 15 litres/ha.
When using this form of application gives consideration to the fact that the product is highly non-selective and if desirable plants, trees etc are in the vicinity of the area to be sprayed, they could be affected by drift or targeted contact.
This would limit usage via this technique to such situations as weed control on fallows or pasture, control prior to establishment of crops or pasture.
Another point to bear in mind is that on sloping terrain height above the ground may vary from point-to-point, and at any given point, from boom tip to boom tip. It is also worth remembering that there is more land area on a hilly block than a flat block, even though the perimeter distance may be the same. In such situations increase the water volume to 30 - 80 litres/ha and increase the minimum droplet size to medium average size.
Note: In high temperatures and dry conditions evaporation of droplets prior to reaching target species can occur and it is therefore important to increase water volumes to at least 30 litres/ha and average droplet size to medium, if temperatures are in excess of 25°C. DO NOT SPRAY if temperature is above 30°C.
Use recommended rates specified on this label up to a maximum limit of 3.2 L/ha.

For Wiper Equipment
Such as Ropewick applicators etc detailed information should be obtained from the manufacturers. As a general guide 800 mL of product should b mixed with 2 litres of water. Weeds should ideally be 5cm above the crop or pasture. One pass in each direction commonly referred to, as a 'double pass' will maximise effectiveness. The lower the vehicle speed the better the result. Certainly, no faster than 8km/hr is recommended.

Sprayer Clean Up
After use, clean all spray equipment by thoroughly washing with clean water, in order to prevent corrosion to tanks, lines and nozzles. Aircraft used in application should be thoroughly washed with particular attention to wheels and landing gear.

Compatibility
It has been established that the following products may be mixed with glyphosate to broaden the spectrum of pests controlled, add soil residual activity, and improve performance. Refer to the 'Directions for Use' Section for detailed information on the tank mix situations.

Additives: Crystalline Ammonium Sulphate assists in minimizing antagonism when mixed with flowable Triazine herbicides. The only form of Ammonium Sulphate to be used is the crystalline form (not prilled or granular forms). Test the quality by dissolving 2 tablespoons in 2 litres of water. Swirl gently for 2 minutes. Should undissolved particles remain at the end of that time, pre-dissolve them prior to adding product to spray tank. Ensure solution is poured through a screen.

Herbicides: Atrazine – flowable or granular (see additives above – do not apply the tank mix for control of Barnyard grass or Liverseed grass), Dicamba, 2,4-D ester, Express, Garlon, chlorsulfuron, metsulfuron, Yield, Stomp, Logran, LVE MCPA, Goal CT.

Goal CT: The addition of Goal CT at 75 mL/ha to recommended rates of this product prior to planting wheat or barley will improve knockdown and increase the speed at which treated weeds develop visible symptoms of phytotoxicity. Add Flowright Compatibility agent to improve the compatibility in cold water (less than 15oC). See Directions below.

Insecticides: Chlorpyrifos, Dimethoate, Fenitrothion, Gusathion, Imidan (phosmet), Le-mat (omethoate), Lorsban, metasystox, Sumithion, Perfekthion EC 400.

Flowright compatibility agent
Rate: 200 L/100 L spray solution. When mixing with Goal CT, add to improve the compatibility in cold water (less than 15oC). Flowright must be pre-mixed with Goal CT before adding to the spray tank. Refer to Flowright label for directions.

RESISTANT WEEDS WARNING

GROUP	9	HERBICIDE

Swan Glyphosate 450 Herbicide is a member of the Glycine group of herbicides. Swan Glyphosate 450 Herbicide has the inhibitor of EPSP syntheses mode of action. For weed resistance management Swan Glyphosate 450 Herbicide is a Group 9 Herbicide.
Some naturally occurring weed biotypes resistant to Swan Glyphosate 450 Herbicide 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 Swan Glyphosate 450 Herbicide or other Group 9 herbicides.
Since the occurrence of resistant weeds is difficult to detect prior to use, Swan Chemical Holdings Pty Ltd accepts no liability for any losses that may result from the failure of Swan Glyphosate 450 Herbicide to control resistant weeds.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS
DO NOT apply under weather conditions, or from spraying equipment that may cause spray to drift onto nearby susceptible plants/crops, cropping lands or pastures.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT
DO NOT contaminate dams, rivers, watercourses, 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.

PROTECTION OF LIVESTOCK
There is no withholding period for grazing stock, but to give the product a chance to be efficiently absorbed by sprayed vegetation, it is recommended that livestock be kept clear of treated annual weeds for one day after spraying, and for perennial weeds 7 weeds. For certain plants known to be toxic to stock, it is advisable to keep livestock away until complete browning occurs.

STORAGE AND DISPOSAL
DO NOT store the product in galvanised steel or unlined steel containers, as the product may react to produce hydrogen gas, which in turn could form a highly combustible gas that could explode if ignited by an open flame, or spark, lighted cigarette etc.
Store in the closed original container in a well ventilated as cool as possible. DO NOT store for prolonged periods in direct sunlight.
Triple-rinse empty 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 for appropriate disposal 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.

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

SAFETY DIRECTIONS
Will irritate the eyes and skin. Avoid contact with eyes and skin. When using together with other products, consult their label safety directions. When opening the container and preparing and using the prepared product, wear cotton overalls buttoned to the neck and wrist or equivalent clothing and elbow-length chemical resistant gloves. In addition, wear face shield or goggles when mixing and loading. When using controlled droplet applicator, wear protective waterproof clothing and impervious footwear. Wash hands after each day's use. Wash gloves and face shield or goggles and contaminated clothing.

FIRST AID INSTRUCTIONS
If poisoning occurs, contact a doctor or Poisons Information Centre. *Phone Australia 13 11 26.*

SAFETY DATA SHEET
Additional information is listed in the Safety Data Sheet (SDS) that can be obtained from the supplier.

LIMIT OF WARRANTY AND LIABILITY
Swan Chemical Holdings Pty Ltd. ('Swan') warrants that this material conforms to the chemical description on the label. As the use of product sold is beyond the control of Swan, no responsibility whatsoever for any consequences is accepted in respect of this product, save those non-excludable conditions implied by any State and Federal legislation or law of a Territory. Not for repackaging or reformulation. No license under any non-Australian patent is granted or implied by purchase of this container.

IN EMERGENCY DIAL 000 POLICE OR FIRE BRIGADE	**24HR EMERGENCY RESPONSE: AU +61 1800 951 288 NZ +64 800 700 112**