Product Name: Titan Clopyralid 600 SL Herbicide
APVMA Approval No: 90381/145296

RLP
APPROVED

Label Name:	Titan Clopyralid 600 SL Herbicide

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

Constituent Statements:	600 g/L CLOPYRALID PRESENT AS DIMETHYLAMINE & DIETHYLAMINE SALTS

Mode of Action:	GROUP 4 HERBICIDE

Statement of Claims:	For the control of a wide range of broadleaf weeds in Wheat, Barley, Triticale, Oats, Pastures, Canola, Fallow Land, Forests and Industrial situations as specified in the Directions For Use.

Net Contents:	1 L - 1000 L

Restraints:	This section contains file attachment.

Directions for Use:	This section contains file attachment.

Other Limitations:	

Withholding Periods:	WITHHOLDING PERIODS Pastures, Fallow land, Industrial and Commerical situations: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 7 DAYS AFTER APPLICATION.

	Cereals and Canola: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 7 DAYS AFTER APPLICATION. Cereals (HARVEST): DO NOT APPLY LATER THAN 10 WEEKS BEFORE HARVEST. Canola (HARVEST): NOT REQUIRED WHEN USED AS DIRECTED. Forests, except Pinus radiata Plantations: DO NOT GRAZE FOR 7 DAYS AFTER APPLICATION. Pinus radiata Plantations: DO NOT GRAZE FOR 14 DAYS AFTER APPLICATION.

Trade Advice:	

General Instructions:	This section contains file attachment.

Resistance Warning:	RESISTANT WEEDS WARNING TITAN Clopyralid 600 SL Herbicide is a member of the Pyridines group of herbicides. TITAN Clopyralid 600 SL Herbicide has the disrupters of plant cell growth mode of action. For weed resistance management, TITAN Clopyralid 600 SL Herbicide is a Group 4 herbicide. Some naturally occurring weed biotypes resistant to TITAN Clopyralid 600 SL Herbicide and other Group 4 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 Clopyralid 600 SL Herbicide or other Group 4 herbicides. Since 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 Clopyralid 600 SL Herbicide to control resistant weeds. Strategies to minimise the risk of herbicide resistance are available. Contact your farm chemical supplier, consultant, local Department of Agriculture or TITAN AG representative.

Precautions:	RE-ENTRY PERIODS DO NOT allow entry into treated areas until the spray has dried when applying to Barley, Oats, Triticale, Wheat, Forests (except in control of Cape Ivy), Rights-of-Way, Industrial situations and Canola, unless wearing cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's use. DO NOT allow entry into treated areas until the spray has dried to undertake low exposure activities (eg. irrigation or weeding) and for 8 days after application to undertake high exposure activities (eg. pruning, training) when applying to control Cape Ivy in forests, unless wearing cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's use. DO NOT allow entry into treated areas until the spray has dried to undertake low exposure activities (eg. irrigation) and for 9 days after application to undertake high exposure activities (eg. hand weeding, transplanting) when applying to pastures and fallow land, unless wearing cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's use. DO NOT allow entry into treated areas until the spray has dried to undertake low exposure activities (eg. irrigation, scouting or weeding) and for 17 days after application to undertake high exposure activities (eg. pruning, training) when applying to Pinus radiata plantations, unless wearing cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's use.

Protections:	PROTECTION OF LIVESTOCK DO NOT graze or cut treated crops for stock food except as specified under WITHHOLDING PERIODS. PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT Low toxicity to fish, birds, honey bees, livestock, earthworms and aquatic organisms. DO NOT contaminate streams, rivers or waterways with the chemical or used containers. PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS DO NOT apply under weather conditions or from spraying equipment that may cause spray drift onto nearby susceptible plants/crops, cropping lands or pastures.

Storage and Disposal:	STORAGE AND DISPOSAL Store in the closed, original container in a cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight. DO NOT store near feedstuffs, fertilisers or seed. Triple rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on-site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available bury the empty packaging 500mm below the surface in disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in accordance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product. Returnable containers (110L only): DO NOT remove or tamper with the dry valves or security seal. DO NOT contaminate the drum with water or any other foreign matter. After each use of the product ensure that the dry valve coupler, delivery system and hoses are disconnected, triple rinsed with clean water and drained. Add the rinsings to the spray tank. When the drum is empty remove the dry valve coupler and return to the point of purchase. The drum remains the property of TITAN AG Pty Ltd. Refillable containers (1000L only): Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage. SMALL SPILL MANAGEMENT Wear protective equipment (see SAFETY DIRECTIONS). Apply absorbent material such as earth, sand, clay granules or cat litter to the spill. Sweep up material for disposal when absorption is completed and contain in a refuse vessel for disposal (see STORAGE AND DISPOSAL section). If necessary, wash the spill area with an alkali detergent and water and absorb as above, the wash liquid for disposal.

Safety Directions:	SAFETY DIRECTIONS Harmful if swallowed. May irritate the skin. Will damage the eyes. Avoid contact with the eyes and skin. When using together with other products, consult their label safety directions. If product or spray in eyes, wash it out immediately with water. When opening the container and preparing the product for use, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow-length chemical resistant gloves and face shield or goggles. Wash hands after use. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

First Aid Instructions:	FIRST AID If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131126; New Zealand 0800 764 766.

First Aid Warnings:	

Restraints:
DO NOT apply to weeds, which may be stressed (inactive growth) due to prolonged periods of extreme heat or cold, moisture stress (water logging or drought) or previous herbicide treatment as reduced levels of control may result.
DO NOT spray if rain is likely within 3 hours.
DO NOT apply immediately before sowing susceptible crops, or sow susceptible crops into paddocks treated the previous year with TITAN Clopyralid 600 SL Herbicide until after the required plantback period has elapsed (see PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS section).
DO NOT compost material from treated plants or crops before reading the PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS section.
When applying to plantation trees including *Pinus radiata* plantations the following restriction statement applies: Must use closed mixing and loading for aerial application.
When applying to forests to control Groundsel Bush, Ragwort, Silver Wattle and Cape Ivy, the following restriction statement applies: DO NOT apply by using spraying equipment carried on the back of the user.

FOR PROFESSIONAL USE ONLY

SPRAY DRIFT RESTRAINTS
Specific definitions for terms used in this section of the label can be found at apvma.gov.au/spraydrift
DO NOT allow bystanders to come into contact with the spray cloud.
DO NOT apply in a manner that may cause an unacceptable impact to native vegetation, agricultural crops, landscaped gardens and aquaculture production, or cause contamination of plant or livestock commodities, outside the application site from spray drift. Wherever possible, correctly use application equipment designed to reduce spray drift and apply when the wind direction is away from these sensitive areas.
DO NOT apply unless the wind speed is between 3 and 20 kilometres per hour at the application site during the time of application.
DO NOT apply if there are hazardous surface temperature inversion conditions present at the application site during the time of application. Surface temperature inversion conditions exist most evenings one to two hours before sunset and persist until one to two hours after sunrise.
DO NOT apply by a boom sprayer unless the following requirements are met:
• Spray droplets not smaller than a COARSE spray droplet size category.
DO NOT apply by aircraft unless the following requirements are met:
• Spray droplets not smaller than a COARSE spray droplet size category.

DIRECTIONS FOR USE

Table 1. WINTER CEREALS					
CROP	**CROP STAGE**	**WEED**	**WEED STAGE**	**RATE**	**CRITICAL COMMENTS**
Barley, Oats, Triticale, Wheat	Pre-sowing	Capeweed, Volunteer Chickpeas and Faba Bean, Sub-Clover, Vetch	Up to 8 leaf and maximum 10cm diameter	75mL/ha + knockdown herbicide	**Pre-sowing:** This rate should only be used in tank mixture with TITAN EOS Herbicide or TITAN Glyphosate products.
	Post-sowing pre-emergence through to 3 leaf	Capeweed, Volunteer Faba Bean, Sub-Clover	Pre-emergence	150-300mL/ha	Rates of 150-300mL/ha give good suppression (reduced seed set and up to 80% weed control). 300mL/ha is required for good control of Capeweed and Sub-Clover. Apply to moist soil and time treatment for major germination of weeds. Good soil moisture and application close to time of weed germination is essential for best control.
		Capeweed	Up to 8 leaf and maximum 10cm diameter	75mL/ha + 170g/ha TITAN Diuron 900 WG	**Post-sowing pre-emergent to 3 leaf:** This rate should only be used in tank mixture with diuron for control of transplants.
	Early post-emergence (2 leaf to jointing)		Cotyledons to 6 leaf and maximum 5cm diameter	75mL/ha	**Early post-emergent:** Weeds should be growing actively and not larger than 5cm diameter.
	4 to 5 leaf through to booting	Capeweed, Soldier Thistle	Up to 10cm diameter (4 to 8 leaf)	150mL/ha	Weeds should be young and actively growing. Weeds will become stunted and non-competitive soon after application although final results may not show for some weeks. Faba Beans and Lupins will only be suppressed.
		Volunteer Chickpeas, Lentils and Safflower	Up to 6 leaf	125mL/ha	
		Volunteer Faba Beans and Lupins	Up to 4 leaf		
		Volunteer Field Peas	Maximum 10cm high or 6 nodes	75mL/ha	
				40mL/ha + 630mL/ha TITAN LVE MCPA 570	
		Volunteer Medic and Lucerne (seedlings)	Up to 8 leaf	75mL/ha	
		Volunteer Sub-Clover	Up to 6 leaf		

		Volunteer Vetch	Runners up to 10cm, maximum 16 leaf	50mL/ha	
	5 leaf through to booting	Flaxleaf, Fleabane (*Conyza bonariensis*)	5cm rosettes	150mL/ha	

Table 2. WINTER CEREALS: Post-emergence tank mixtures

Weeds should be young and actively growing. Weeds will become stunted and non-competitive soon after application although final results may not show for some weeks. Where a rate range is listed use low rate mixtures for small weeds to 5cm diameter and higher rate mixtures for weeds up to 10cm diameter. Use a surfactant such as TITAN Wetter 1000 Wetting Agent for granular herbicides or the recommended adjuvant on the partner herbicide label.

WEED	WEED STAGE	RATE	CRITICAL COMMENTS
Capeweed	Up to 4 leaf, 10cm diameter	100-150mL/ha + 20g/ha TITAN Chlorosulfuron 750 WG	Chlorosulfuron mixes – 2 leaf to 1st node crop stage.
		50mL/ha + 5g/ha TITAN Metsulfuron 600 WG + 420mL/ha TITAN LVE MCPA 570	TITAN Metsulfuron 600 WG Herbicide/TITAN LVE MCPA 570 Herbicide mixes – 4 to 5 leaf to 1st node crop stage.
		50mL/ha + 750mL/ha TITAN Diflufenican + MCPA	TITAN Diflufenican + MCPA Selective Herbicide mixes – 3 leaf to 1st node crop stage, but not on Barley or Kulin Wheat in WA.
Field Peas (volunteer), Vetch (volunteer)	Up to 6 node, 10cm diameter Up to 4 branch, 10cm diameter	50mL/ha + 5g/ha TITAN Metsulfuron 600 WG + 315mL/ha TITAN LVE MCPA 570 OR 40mL/ha + 630mL/ha TITAN LVE MCPA 570	Use 40mL/ha only in combination with TITAN LVE MCPA 570 Herbicide. TITAN Clopyralid 600 SL Herbicide + TITAN LVE MCPA 570 Herbicide mixes – 4 to 5 leaf to 1st node crop stage.
Vetch (volunteer)	Runners up to 10cm, maximum 16 leaf	40mL/ha + 630 mL/ha TITAN LVE MCPA 570	4 to 5 leaf through to booting crop stage. Weeds should be young and actively growing. Weeds will become stunted and non-competitive soon after application although final results may not show for some weeks.
Sub-Clover (volunteer)	Up to 5 trifoliate, 5cm diameter	50mL/ha + 5g/ha TITAN Metsulfuron 600 WG + 315-420mL/ha TITAN LVE MCPA 570	TITAN Metsulfuron 600 WG Herbicide/TITAN LVE MCPA 570 Herbicide mixes – 4 to 5 leaf to 1st node crop stage.
Prickly Lettuce	Up to 6 leaf, maximum 10cm diameter		
Medic (volunteer)	Up to 6 leaf, maximum 5cm diameter		

Prickly Lettuce	4 to 6 leaf and maximum 8cm diameter	75mL/ha + 630mL/ha TITAN LVE MCPA 570	Weeds should be young and actively growing. Weeds will become stunted and non-competitive soon after application although final results may not show for some weeks.
	Up to 6 leaf, maximum 10cm diameter	75mL/ha + 630mL/ha TITAN LVE MCPA 570	TITAN Clopyralid 600 SL Herbicide + TITAN LVE MCPA 570 Herbicide mixes – 4 to 5 leaf to 1st node crop stage.
Thistles including: Nodding, Saffron, Scotch, Slender, Spear, Stemless, Variegated	Rosettes up to 10cm maximum diameter	25mL/ha + 700mL/ha TITAN MCPA 750	4 to 5 leaf through to booting crop stage. For thistle control, TITAN Clopyralid 600 SL Herbicide rate will depend on density, growth stage, climatic conditions and time of application. Use higher rates for best control where high density and/or large weeds occur. MCPA or 2,4-D mixes apply from 4 to 5 leaf to 1st node crop stage. Weeds should be young and actively growing. Weeds will become stunted and non-competitive soon after application although final results may not show for some weeks.
St Barnaby's Thistle	4 to 8 leaf, 5 to 10cm diameter	25-50mL/ha + 350mL/ha to 700mL/ha TITAN Amine 720 or 700mL to 1L TITAN MCPA 750	
Sowthistle (common)	Young rosettes up to 8 true leaves	50mL/ha + 800mL/ha (26g/L picloram/420g/L MCPA) OR 5g/ha TITAN Metsulfuron 600 WG + 630mL/ha TITAN LVE MCPA 570	Apply to actively growing young rosettes. Use TITAN Paraffinic Spraying Oil at 500mL/100L of water for improved control with picloram/MCPA tankmixes or TITAN Wetter 1000 Wetting Agent with TITAN Metsulfuron 600 WG Herbicide/TITAN LVE MCPA 570 Herbicide tankmixes. Apply tankmixes from 4 to 5 leaf to 1st node crop stage.
Skeleton Weed	5 to 15cm rosettes	250mL/ha + 700mL/TITAN MCPA 750	Weeds should be a minimum 5cm in diameter and growing actively. This rate will give control until harvest and substantially reduce weed numbers the following season. Apply from 4 to 5 leaf to 1st node crop stage.

Table 3. CANOLA

CROP	CROP STAGE	WEED	WEED STAGE	RATE	CRITICAL COMMENTS
Canola	Pre-sowing	Capeweed, Volunteer Chickpeas and Faba Bean, Sub-Clover, Vetch	Up to 8 leaf and maximum 10cm diameter	75mL/ha + knockdown herbicide	**Pre-sowing:** This rate should only be used in tank mixture with TITAN EOS or TITAN Glyphosate products.
	Post-sowing Pre-emergence to 3 leaf	Capeweed, Volunteer Faba Bean and Sub-Clover	Pre-emergence	150-300mL/ha	Rates of 150-250mL/ha give good suppression (reduced seed set and up to 80% weed control). 300mL/ha is required for good control of Capeweed and Sub-Clover. Apply to moist soil and time treatment for major germination of weeds. Good soil moisture and application close to time of weed germination is essential for best control.

	2 to 8 leaf	Capeweed, Cotula, Saffron Thistle, Skeleton Weed, Soldier Thistle	Up to 10cm diameter (4 to 8 leaf)	150mL/ha	Weeds should be young and actively growing. Weeds will become stunted and will not be competitive soon after application although final results may not show for some weeks. Skeleton Weed will only be controlled until harvest. Faba Beans and Lupins will only be suppressed. For the control of annual grasses, TITAN Clopyralid 600 SL Herbicide may be tankmixed with TITAN Hermes 520 Herbicide.
		Volunteer Chickpeas, Lentils and Safflower	Up to 6 leaf	125mL/ha	
		Volunteer Faba Beans and lupins	Up to 4 leaf		
		Volunteer Field Peas	Maximum 10cm high or 6 nodes	75mL/ha	
		Volunteer Medics and seedling Lucerne	Up to 8 leaf		
		Volunteer Sub-Clover	Up to 6 leaf		
		Volunteer Vetch	Runners up to 10cm, maximum 16 leaf	50mL/ha	
		St Barnaby's Thistle	4 to 8 leaf, 5 to 10cm diameter	75-150 mL/ha	TITAN Clopyralid 600 SL Herbicide rate will depend on weed density, growth stage, climatic conditions and time of application. Use higher rates for best control where high density and/or large weeds occur.

Table 4. PASTURES AND FALLOW LAND (Established perennial grass and Sub-Clover based pastures) (Boom spray application if not specified)

CROP	CROP STAGE	WEED	WEED STAGE	RATE	CRITICAL COMMENTS
Pastures and fallow land	Post-emergence	Hardhead Thistle (Creeping Knapweed, Russian Knapweed)	Actively growing plants. Treat rosette stage prior to stem elongation.	**Motorised Handgun:** 250mL/100L of water **Boom Spray:** 1 or 2L/ha	**Clover Damage:** TITAN Clopyralid 600 SL Herbicide plus MCPA or 2, 4-D mixtures can be very damaging to Subterranean Clover. The lower rate is no more damaging than label rates of 2, 4-D or MCPA. Use 25mL/ha mixes when clover is at the 6 trifoliate leaf stage to just prior to flowering. The 35mL/ha mix will reduce the clover component of the pasture for about two months. Use the 35mL/ha mix from 6 trifoliate leaf stage and where thistles are large due to early germination. Clover recovery will be quicker during periods of active growth. If clover damage is the major consideration, use the lower TITAN Clopyralid 600
				Motorised Handgun: 250mL/100L of water **Boom Spray:** 2L/ha	
		Thistles including: Nodding, Variegated,	Treat rosette stage prior to	25 or 35mL/ha + 700 mL/ha to 1L/ha TITAN MCPA 750	

		Scotch, Spear, Slender, Saffron, St Barnaby's	stem elongation	**Drench Gun:** 25mL/1L of water **Motorised Handgun:** 125mL/100 L of water	SL Herbicide rate to minimise damage. **Motorised Handgun (Spot Spray):** Treat from rosette stage to early flowering. Thorough spraying is necessary. **Drenchgun:** Apply 10mL of mixture to rosette crown.
		St Barnaby's Thistle	5 to 8 leaf and to 5 to 10cm diameter	25-50mL/ha + 350-700mL/ha TITAN Amine 720 OR 1.5-2.5L/ha TITAN 2,4-DB 500 SL OR 1L/ha TITAN Paraquat 250 OR 1-1.5L/ha TITAN Simazine 500 + 1L/ha TITAN 2,4-DB 500 SL	
		Nodding Thistle	Rosettes up to 20cm in diameter	50mL/ha	Apply the spray from September to October. Apply by boom spray only. DO NOT apply to thistles over 20cm in diameter. When thistles are over 20cm in diameter use TITAN Clopyralid 600 SL Herbicide plus MCPA (referred to above). **Clover Damage:** Damage to White Clover will be no greater than damage with MCPA alone and less than damage from TITAN Clopyralid 600 SL Herbicide plus MCPA mixtures. Damage to Sub-Clover may be greater than with MCPA or 2, 4-D alone. DO NOT use for spot treatment.
	Post-emergence	Californian Thistle	From early buds to flowering (December to February)	**Motorised Handgun:** 125mL/100L of water **Boom Spray:** 1L/ha	Addition of TITAN Wetter 1000 Wetting Aent at 0.2% v/v is recommended. Retreatment of regrowth in the year following treatment will usually be necessary to achieve a high level of control. **Note:** Clovers and Medics will be eliminated for at least one (1) year.
		Lucerne	30 to 40cm high pre-flowering	150mL/ha + 1.5-2L/ha TITAN Glyphosate 450 + either 1.3L/ha TITAN MCPA 750 OR 1.5L/ha TITAN Amine 720	Treat healthy, actively growing lucerne in early spring prior to flowering. After grazing or cutting, allow Lucerne to regrow for approximately four (4) weeks before treatment. For best control, do NOT re-graze for greater than two (2) weeks after application. For complete control of Lucerne in pasture, cultivate approximately one (1) month after herbicide treatment.
Pasture	Post-emergence	Groundsel Bush	Young seedlings to mature plants	**Motorised Handgun:** 165-250mL/100L of water	Spray foliage when growth is active. Use the lower rate on young seedlings and the higher rate on plants more than 2 metre tall or when growth is slow.

Grass pasture	See CRITICAL COMMENTS	Flaxleaf, Fleabane (*Conyza bonariensis*)	5cm rosettes	150mL/ha-1L/ha	Pasture – The lower rate of 150mL/ha will give knockdown control. For residual control use the 1L/ha rate. **Note:** Clovers and Medics will be eliminated for at least one (1) year. Where pasture removal is required use 1L/ha + 2.4L TITAN Glyphosate 450 Herbicide + TITAN Wetter 1000 Wetting Agent 0.2% v/v.
TABLE 5. FORESTRY – Pre-planting: Boom and Aerial application **Forests and Plantation Trees including *Eucalyptus* spp., *Corymbia Maculata* and *Pinus Radiata***					
WEEDS CONTROLLED		**WEED GROWTH STAGE**		**RATE/ha**	**CRITICAL COMMENTS**
Capeweed, Thistles, Volunteer Legumes, Flatweed, Fleabanes		Pre-emergent		1-3L	Use the higher rate for extended pre-emergence control (>3 months).
Flaxleaf, Fleabane (*Conyza bonariensis*)		5cm rosettes		150mL-1L	Forests (pre plant) – only use 1L/ha + 2.4L TITAN Glyphosate 450 + TITAN Wetter 1000 Wetting Agent where weeds exist that TITAN Clopyralid 600 SL Herbicide does not control. TITAN Clopyralid 600 SL Herbicide can be damaging to *Acacia* spp. Consult TITAN AG before application in forests where *Acacia* spp. is a significant component.
***Pinus Radiata* only**					
Silver Wattle (suppression only)		Pre-emergence from seeds		3L	For best results apply TITAN Clopyralid 600 SL Herbicide SL to bare soil just prior to spring rain or when wattles are expected to germinate. Avoid application to heavy trash situations. A high level of suppression may not be achieved where rain does not fall for an extended period after application (>1 month), or where very high rainfall occurs after application (>1200 mm/yr).
Table 6. FORESTRY – Post-planting: High Volume Spraying by Handgun **Forests and Plantation Trees including *Eucalyptus* spp., *Corymbia Maculata* and *Pinus Radiata***					
WEEDS CONTROLLED		**WEED GROWTH STAGE**		**RATE**	**CRITICAL COMMENTS**
Groundsel Bush		Young seedlings to mature plants		160 or 250mL/100L water	Spray foliage when growth is active. Use the lower rate on young seedlings and the higher rate on plants more than 2m tall or when growth is slow.
Ragwort		Actively growing rosettes up to stem elongation and before flowering		100 to 150mL/100L water	Spray from the rosette to the shooting stage of growth. Use the higher rate on large multi-crown plants. Addition of a 100% non-ionic

			surfactant such as TITAN Wetter 1000 Wetting Agent at 0.1% v/v is recommended. Add Diquat (200 g/L) at 1L/100L water plus a surfactant after opening of the first flowers, to prevent the formation of viable seed. Where Diquat is added use a directed spray to avoid tree injury.
Silver Wattle	Active growth spring to summer	250mL/100L water	For effective control apply when bushes are growing actively. Large trees will not show complete necrosis. **Handgun:** Means high volume NOT low volume knapsack. DO NOT apply by using spraying equipment carried on the back of the user (see General Instructions, Application). Spray to the point of run-off to give full coverage of leaves and stems. Add Titan Organosilicone Surfactant at 200mL/100L for optimum results.
Cape Ivy	Any growth stage	1.7L/ha	Application may be made at any time of the year providing foliage is dry at the time. Avoid spraying non-target plants. Low volume application. For application by hand-held weed wiper or CDA use at dilution with water of 125mL/L.
Table 7. FORESTRY – Post-Planting: Boom and Aerial Application **Forests and Plantation Trees including *Eucalyptus* spp., *Corymbia Maculata* and *Pinus Radiata***			
WEEDS CONTROLLED	**WEED GROWTH STAGE**	**RATE/ha**	**CRITICAL COMMENTS**
Capeweed, Flatweed, Thistles (except Hardhead Thistle), Volunteer Legumes, Skeleton Weed	Actively growing rosettes, seedlings up to 15cm diameter or height	250 to 500mL	Cupping of the tip leaves and “weepy leader” symptoms may occur on certain *Eucalyptus* spp. and *Corymbia maculata* and are generally transient and do NOT result in long-term injury. These symptoms may

Capeweed, Flatweed, Fleabanes, Skeleton Weed, Thistles including Hardhead Thistle, Volunteer Legumes	Actively growing rosettes and seedlings greater than 15cm diameter or height up to stem elongation and before flowering	1L	be more obvious at rates of 1L/ha or higher or where mixtures are used on Blue Gum, Shining Gum and Spotted Gum. Where "weepy leader" effect is a concern use a directed spray. Use the 250mL rate until 3 months post-planting and the 500mL rate for trees 3 months and older. Use the low rate only under ideal conditions with excellent weed growth and where knockdown control of small weeds is desired. Use the high rate where longer control is required of larger weeds. For the control of annual and certain perennial grasses, TITAN Clopyralid 600 SL Herbicide can be tankmixed with TITAN Hermes 520 Herbicide. See also comments in Mixing section. TITAN Paraffinic Spraying Oil should not be used in tank mixes with TITAN Hermes 520 Herbicide or other 520g/L Haloxyfop products and TITAN Clopyralid 600 SL Herbicide on sensitive species such as Blue Gum, Shining Gum or Spotted Gum where rates of TITAN Clopyralid 600 SL Herbicide are more than 1L/ha. Use a 100% non-ionic surfactant such as TITAN Wetter 1000 Wetting Agent at 0.1% v/v instead.
Flaxleaf, Fleabane (*Conyza bonariensis*)	5cm rosettes	150mL-1L	Forests (post-plant) – only 1L/ha plus 2.4L TITAN Glyphosate 450 Herbicide + TITAN Wetter 1000 Wetting Agent at 0.2% v/v where weeds that TITAN Clopyralid 600 SL Herbicide does not control exist. For post-plant situations always apply with shielded sprayer and/or directed spray technique to avoid injury to trees by glyphosate. TITAN Clopyralid 600 SL Herbicide can be damaging to *Acacia* spp. Consult TITAN AG before application in forests where *Acacia* spp. is a significant component.
Californian Thistle	From early bud to flowering (December to February)	1L	For best control of California Thistle use a wetter such as TITAN Wetter 1000 Wetting Agent at 0.1% v/v. A second annual application may also be required for the best control.
Ragwort	Small rosettes to larger rosettes up to stem elongation and before flowering	500mL to 1L	Spray from the rosette to the shooting stage of growth. For small rosette seedling plants use the lower rate. For large rosette multicrown and/or perennial plants use the higher rate. Addition of a 100% non-ionic surfactant such as TITAN Wetter 1000 Wetting Agent at 0.1% v/v is recommended. Add Diquat (200 g/L) at 1 L/100 L water

			plus a surfactant after opening of the first flowers, to prevent the formation of viable seed. Where diquat is added use a directed spray to avoid tree injury.
Sorrel (suppression only)	Actively growing rosettes, seedlings up to 15cm diameter or height	3 to 4.25L	Higher rates give better suppression. At rates greater than 3L use a directed spray to avoid tree injury.
***Pinus Radiata* and *Eucalyptus* spp. PLANTATIONS only**			
WEEDS CONTROLLED	**WEED GROWTH STAGE**	**RATE/ha**	**CRITICAL COMMENTS**
Silver Wattle	Active growth spring to summer (0.5 to 2m tall)	2.5L	For effective control apply when bushes are growing actively. Large trees will not show complete necrosis. For boom spraying apply in 150 to 200 water/ha. For aerial treatment apply in a minimum of 50L/ha of water with as TITAN Paraffinic Spraying Oil at 1L/ha. At rates of 3.5L and 4.25L for *Eucalypt* spp. use a directed spray to avoid tree injury. For aerial treatment apply in a minimum of 50L/ha.
	Active growth spring to summer (2 to 4m tall)	3.5L	
	Active growth spring to summer (4 to 8m tall)	4.25L	
Note: Where drift is likely to be an issue apply in a minimum of 50L water/with 25 to 50% by volume of anti-evaporant oil. Mix TITAN Clopyralid 600 SL Herbicide and water first, and then add the anti-evaporant oil. Maintain continuous agitation.			
Table 8. INDUSTRIAL/COMMERCIAL SITUATIONS including RIGHTS-OF-WAY AND FENCELINES – Boom Application only			
WEEDS CONTROLLED	**WEED GROWTH STAGE**	**RATE/ha**	**CRITICAL COMMENTS**
Capeweed, Thistles, Volunteer Legumes, Flatweed, Fleabanes	Pre-emergent	1-3L	Use the higher rate for extended pre-emergence control (greater than three (3) months)
Flatweed, Capeweed, Thistles (except Hardhead Thistle), Volunteer Legumes, Skeleton Weed	Actively growing rosettes, seedlings up to 15cm diameter or height	250-500mL	Use the low rate only under ideal conditions with excellent weed growth and where knockdown control of small weeds is desired. Use the high rate where longer control is required of larger weeds. For the control of annual and certain perennial grasses TITAN Clopyralid 600 SL Herbicide can be tankmixed with TITAN Hermes 520 Herbicide. See also comments on Mixing in Directions For Use.
Flatweed, Fleabanes, Capeweed, Thistles including Hardhead Thistle, Volunteer Legumes, Skeleton Weed	Actively growing rosettes and seedlings greater than 15cm diameter or height up to stem elongation and before flowering	1L	
Californian Thistle	From early bud to flowering (December to February)		For best control of California Thistle use TITAN Wetter 1000 Wetting Agent at 0.1% v/v. A second annual application may also be required for best control.

Flaxleaf, Fleabane (*Conyza bonariensis*)	5cm rosettes	1L + 2.4L TITAN Glyphosate 450 + TITAN Wetter 1000 0.2% v/v	
Ragwort	Small rosettes to larger rosettes up to stem elongation and before flowering	500mL-1L	Spray from the rosette to the shooting stage of growth. For small rosette seedling plants use the lower rate. For large rosette multi-crown and/or perennial plants use the higher rate. Addition of TITAN Wetter 1000 Wetting Agent at 0.1% v/v is recommended. Add Diquat (200 g/L) at 1L/100L water plus a surfactant after opening of the first flowers, to prevent the formation of viable seed. Where diquat is added use a directed spray to avoid injury to non-target plants.
Table 9. INDUSTRIAL/COMMERCIAL SITUATIONS including RIGHTS-OF-WAY and FENCELINES – High volume spraying by Handgun			
WEEDS CONTROLLED	**WEED GROWTH STAGE**	**RATE/ha**	**CRITICAL COMMENTS**
Groundsel Bush	Young seedlings to mature plants	160 or 250mL/100L water	Spray foliage when growth is active. Use the lower rate on young seedlings and the higher rate on plants more than 2 metres tall or when growth is slow.
Ragwort	Actively growing rosettes up to stem elongation and before flowering	100 to 150mL/100L water	Spray from the rosette to the shooting stage of growth. Use the higher rate on large multi-crown plants. Addition of TITAN Wetter 1000 Wetting Agent at 0.1% v/v is recommended. Add diquat (200g/L) at 1L/100L water plus a surfactant after opening of the first flowers, to prevent the formation of viable seed. Where diquat is added use a directed spray to avoid injury to non-target plants.
Silver Wattle	Active growth spring to summer	250mL/100L water	For effective control apply when bushes are growing actively. Large trees will not show complete necrosis. **Handgun:** Means high volume NOT low volume knapsack (see General Instructions, Application). Spray to the point of run-off to give full coverage of leaves and stems. Add organosilicone surfactant (eg. Titan Organosilicone Surfactant) at 200mL/100L for optimum results.
Cape Ivy	Any growth stage	1.6L	Application may be made at any time of the year providing foliage is dry at the time. Avoid spraying non-target plants. Low volume application. For application by hand held weed wiper or CDA use at

			dilution with water of 125mL/L.

Table 10. AGRICULTURAL NON-CROP AREAS, COMMERCIAL and INDUSTRIAL AREAS, FORESTS, PASTURES and RIGHTS-OF-WAY – Stem Injection		
Application on *Acacia* Species Mix 1 part TITAN Clopyralid 600 SL Herbicide with 9 parts of water and apply the diluted mix as directed below.		
WEEDS CONTROLLED	**WEED GROWTH STAGE**	**CRITICAL COMMENTS**
Single stems less than 25 cm diameter at base	1mL of the diluted mix per cut at 10 to 13cm centres	Apply to waist high cuts (see General Instructions, Application). DO NOT exceed the recommended spacings from the centre of one cut to the centre of the next cut.
Multiple stems or more than 25cm diameter at base	2mL of the diluted mix per cut at 10 to 13cm centres	

GENERAL INSTRUCTIONS

MIXING

Half fill the spray tank with water and add the required amount of TITAN Clopyralid 600 SL Herbicide and complete filling. Agitate continuously to ensure thorough mixing before and during application. Only mix sufficient chemical for each day's work.

Tank mixtures: Wettable powder or dry flowable formulations should be added to the spray tank first, followed by suspension concentrates (flowables), aqueous concentrates, emulsifiable concentrate formulations (eg. haloxyfop or MCPA LVE).

COMPATIBILITY

TITAN Clopyralid 600 SL Herbicide is compatible with the following:

Broadleaf Herbicides: TITAN Metsufuron 600 WG Herbicide, TITAN Bromoxynil 200 Selective Herbicide, TITAN Chlorsulfuron 750 WG Herbicide, TITAN Diuron 900 WG Herbicide, TITAN Glyphosate products, MCPA amine, MCPA LVE, TITAN Parquat 250 Herbicide, TITAN EOS Herbicide, terbutryn, 2,4-D amine.

Grass Herbicides on Broadleaf Crops: Haloxyfop.

APPLICATION BOOM SPRAYING CROPS and PASTURES

Ground Boom: Apply TITAN Clopyralid 600 SL Herbicide in sufficient water to obtain good coverage. It should be applied by an accurately calibrated ground rig or aircraft, delivering medium or coarse droplets and not less than 50L/ha water volume for boom sprayers.

Hardhead Thistle: Use a spray volume of 200 to 250L/ha of water.

Silver Wattle: Use a spray volume of 150 to 200L/ha of water by ground boomspray.

Boom Spraying Plantation Trees: Apply TITAN Clopyralid 600 SL Herbicide in sufficient water to obtain good coverage. It should be applied by an accurately calibrated ground rig or aircraft, delivering medium or coarse droplets and not less than 50L/ha water volume for boom sprayers.

High Volume Handgun: Apply the recommended mix to give full coverage of leaves and stems through a No. 6-8 tip at 700 to 1500kPa. Spray volume for effective coverage of dense two metre high Silver Wattle should be 30 to 40 litres of spray per 100m² (10m x 10m) of infestation. For larger areas an equivalent would be 3000 to 4000 litres per infested hectare.

AIRCRAFT

Apply TITAN Clopyralid 600 SL Herbicide in sufficient water to obtain good coverage. It should be applied by an accurately calibrated aircraft, delivering coarse droplets and not less than 20L/ha for aerial applications.

Silver Wattle: Use a minimum spray volume of 50L/ha by aircraft.

Plantation Trees: Apply TITAN Clopyralid 600 SL Herbicide in sufficient water to obtain good coverage. It should be applied by an accurately calibrated aircraft, delivering medium or coarse droplets and not less than 20L/ha for aerial application.

CLEANING SPRAY EQUIPMENT

Rinse water should be discharged onto a designated disposal area or, if this is unavailable, onto unused land away from desirable plants and water courses.

Partial Cleaning (before spraying other labelled or tolerant crops): After using TITAN Clopyralid 600 SL Herbicide, empty the tank completely and drain the whole system. Thoroughly wash inside the tank using a pressure hose. Quarter fill the tank with clean water and circulate through the pump, line, hoses and nozzles. Drain and repeat procedure twice.

Complete Cleaning (before spraying susceptible crops): After using TITAN Clopyralid 600 SL Herbicide, empty the tank completely and drain the whole system. Thoroughly wash inside the tank using a pressure hose. Quarter fill the tank with clean water and circulate as above, then drain. Quarter fill the tank again and add a liquid alkali detergent (eg. Surf*, Omo*, Drive*) at 500mL/100L water and circulate throughout the system for at least fifteen minutes. Drain, remove filters and nozzles and clean separately. Rinse inside the tank thoroughly using a pressure hose and flush system with clean water.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

Composts and Mulches: DO NOT apply TITAN Clopyralid 600 SL Herbicide to crops or pastures that will be used for the production of compost or mulches or Mushroom substrate. Such compost or mulch made from plant material treated with TITAN Clopyralid 600 SL Herbicide may cause damage to susceptible crops and plants. Susceptible crops and plants include, but are not limited to Chickpeas, Clover, Cotton, Faba Beans, Field Peas, fruit trees, Lentils, Lupins, Lucerne, Medics, Ornamentals, Potatoes, Safflower, Tomatoes, Vegetables, Grape and Kiwifruit vines, Vetches and Wattles. Field Peas, Faba Beans, Lentils and Vetches are particularly susceptible and should not be sown the season following an application of TITAN Clopyralid 600 SL Herbicide at 250mL/ha.

Plantback Periods: Where TITAN Clopyralid 600 SL Herbicide residue carry over from use rates of less than 250mL/ha is suspected and susceptible crops are to be planted, test the treated area as follows:
Field bioassay – where rain allows, plant a small area of the susceptible crop 4 to 6 weeks before desired planting date and take note of any symptoms of injury. If any herbicide symptoms are observed, only plant either Canola or a cereal (see recommendation for northern and southern Australia below).

Pot bioassay – where not practical to do field bioassay, plant a small number of seeds of the susceptible crop into pots containing soil from the treated field. Do this 4 to 6 weeks before desired planting date. If any herbicide symptoms are observed, only plant either canola or cereal (see recommendation for northern and southern Australia below).

Stubble from treated crops – ensure that harvesters effectively spread crop straw and DO NOT leave a heavy 'header trail' after harvest. Burn (if legal in the area), bale and remove, slash or incorporate stubble as soon as practical after harvest and as long as possible before planting next year to allow microbial breakdown of any residues in straw. Heavy stubble loads may carry more residue into the following season. Where heavy stubble burdens and/or non-wetting soils exist and less than recommended rain amount have occurred from application to planting the susceptible crop (see below), only plant a winter or summer cereal or Canola.

Planting crops following use of TITAN Clopyralid 600 SL Herbicide in previous crop – planting crops 'dry' without significant rain (see below) in the 'autumn break' increases the risk of injury to susceptible crops. This practice should be avoided, or only plant a winter or irrigated summer cereal crop or Canola. In severely dry conditions, where less than 30% of average annual rainfall and/or less than the minimum rain (see below) has fallen between application and planting the next year, only plant a winter or irrigated summer cereal or Canola.

Plantback Periods for Southern Australian Winter Dominant Rainfall Areas (Sth NSW, VIC, SA, WA)
Required rainfall: A minimum 25mm rain event in the post-harvest summer to autumn period, with a subsequent extended period of at least 1 week where the top 10cm of the soil stays moist is required to enable breakdown of soil residues. Fastest residue breakdown will occur under good soil moisture and warm conditions, which promote microbial activity. Where significant rain (>25mm) has fallen in summer to autumn, with soil wetting for at least one week, the following plantback periods apply:

Following Crops	Rate (mL/ha)	Plantback Interval
Clover, Chickpea, Faba Bean, Lentils, Lupins, Medics, Vetch	Up to 150	9 months
	150-250	12 months
	>250	24 months
Barley, Canola, Wheat, Oats	All label rates	1 week

Plantback Period for Northern Australia Summer Dominant Rainfall Areas (Nth NSW, QLD)
Required rainfall before plantback:
If planting susceptible summer crops – at least 100mm rain.
If planting susceptible winter crops – at least 150mm rain. This rain or irrigation should wet the soil for extended periods (at least one week). This is essential for breakdown of soil residues prior to planting susceptible crops.
If planting a Cereal or Canola crop – at least 50mm of rain or irrigation is required to enable soil wetting for at least one week.
Where these requirements have been met the following plantback periods apply:

Following Crops	Rate (mL/ha) and Plantback Interval	
	Up to 40mL/ha	>40-150mL/ha
Lucerne	9 months	9 months
Chickpea, Cotton, Soybean, Sunflower	3 months	6 months
Maize, Sorghum	1 week	2 weeks
Barley, Canola, Wheat, Oats	1 week	1 week

Note: Susceptible crops should not be sown for at least 2 years where TITAN Clopyralid 600 SL Herbicide at more than 150mL/ha has been used in northern Australia. Cereals and Canola may be safely planted less than one week after application. However, post-emergent weed control may be reduced due to soil disturbance if one week is not allowed after application.