CAUTION

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

TITAN

TITANIUM
HERBICIDE

ACTIVE CONSTITUENT: 570g/L GLYPHOSATE present as the POTASSIUM SALT

GROUP **9** HERBICIDE

Non-selective herbicide for the control of many annual and perennial weeds.

APVMA Approval No.: 92218/148865

Pack Size: 5L-1000L

TITAN AG
CROP PROTECTION

TITAN AG Pty Ltd | ABN 57 122 081 574
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SL Formulation Type **Soluble Liquid Concentrate**

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

Restraint:
DO NOT disturb weeds by cultivation, sowing or grazing for six hours of daylight following treatment of annual weeds and seven days for perennial weeds to ensure herbicide absorption, unless specified otherwise in critical comments.

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 1 to 2 hours before sunset and persist until 1 to 2 hours after sunrise.

SITUATION	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
SOUTHERN AUSTRALIA FULL SOIL DISTURBANCE Prior to sowing a crop or pasture with full soil disturbance by cultivation or sowing with a tyned implement	Barley Grass, Brome Grass, Volunteer Cereals, Wild Oats	320-625mL/ha pre-tillering 625-795mL/ha post-tillering	**Rate Selection:** Use higher rates for advanced weed growth or when treating under overcast conditions. Cultivation or planting may proceed from 1 hour of daylight after application to seedling annual weeds if a satisfactory seedbed can be created for crop germination and seedling establishment. **Bentgrass:** Use a rate of 1.6L/ha. Apply in late spring following initiation of seed-head emergence. Follow up with full disturbance with a tyned implement 10-21 days after spraying. **Silvergrass:** When treating dense infestations of Silvergrass, use higher rate, add Wetter TXT" and use water volumes of 70L/ha or more to improve coverage. **Perennial Weeds:** TITAN Titanium Herbicide will provide seasonal control and reduction in plant numbers. Control of Skeleton Weed requires addition of full soil disturbance at planting.
	Annual Phalaris, Annual Ryegrass, Silvergrass, Winter Grass	625-795mL/ha pre-tillering 795-950mL/ha post-tillering	
	Calomba Daisy, Capeweed, Doublegee/Spiny Emex, Fumitory, Volunteer Lupins, Volunteer Peas	320-625mL/ha less than 8cm dia/height 625-950mL/ha greater than 8cm dia/height	
	Amsinckia, Dock (seedling), Paterson's Curse, Saffron Thistle, Scotch Thistle, Spear Thistle, Variegated Thistle, Wild Turnip	625-795mL/ha less than 12cm dia/height 795-950mL/ha greater than 12cm dia/height	In Tasmania, for perennial weeds use 950mL-1.9L/ha.
	Bentgrass, Perennial Phalaris, Skeleton Weed,Sorrel, Sub-clover	950mL-1.9L/ha	
SOUTHERN AUSTRALIA MINIMAL SOIL DISTURBANCE To commence a fallow OR Prior to planting a crop or pasture with an implement that gives minimal soil disturbance or prior to surface seeding of pastures	Barley Grass, Canary Grass, Wild Oats, Volunteer Cereals	625-950mL/ha	**Rate Selection:** Use the lower rate on young weeds; increase to the higher rate where grasses reach full tillering or where broadleaf weeds commence stem elongation or budding. Use higher rates in spring and under cold conditions. In Tasmania use 950mL-1.9L/ha with the higher rate for control of perennial weeds. **Pasture or Crop Establishment:** DO NOT sow into excessive trash. Excessive plant residues may be removed by grazing after treatment. Planting may proceed from 1 hour of daylight after application to seedling annual weeds if a satisfactory seedbed can be created for crop germination and seedling establishment. **Aerial (or Surface) Seeding:** Delay seeding until trash level is reduced to allow for satisfactory placement of broadcast seed on the soil surface. **Bathurst Burr:** For mature weeds use the higher rate. **Bentgrass:** Use a rate of 1.6L/ha. Apply in late spring following initiation of seed-head emergence. Follow up with full disturbance with a tyned implement 10-21 days after spraying. **Couch, Kikuyu, Paspalum:** Use the higher rate on dense infestations. Apply sequential treatments during summer and autumn. Repeat applications will be required for full control. For improved control, use in conjunction with cultivation. **Kikuyu, Paspalum:** Use the low rate for suppression, the high rate for control. **Dock, Flatweed:** Use the maximum rate for full control. **Hoary Cress:** Treat from late rosette to early flowering. **Silvergrass:** When treating dense infestations of Silvergrass, use higher rate, add TITAN Organosilicone Surfactant and use water volumes of 70L/ha or more to improve coverage. **Soursob:** Use at a rate of 950mL/ha. Treat at tuber exhaustion.
	Bentgrass, Bathurst Burr, Couch, Dock, Erodium, Flatweed, Hoary Cress, Kikuyu, Plantain, Paspalum, Perennial Phalaris, Sorrel, Sub-clover, Yorkshire Fog	1.2-1.9L/ha	
	Poa Tussock	1.9-2.5L/ha	**Timing:** Treat fresh regrowth (at least 14 days after heavy grazing) after autumn break and before onset of heavy frosts. Sowing may start from 14 days after spraying.

SITUATION	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
Pasture Topping	Annual Ryegrass	285-645mL/ha	Remove livestock prior to application to allow even regrowth. Use lower rate if grasses are flowering and higher rate if at the milky dough stage. Apply to Capeweed and Calomba Daisy at flowering. DO NOT add TITAN Organosilicone Surfactant. DO NOT apply to clover or medic crops intended for seed production.
	Barley Grass, Brome Grass, Capeweed, Silvergrass	190-285mL/ha	
	Calomba Daisy	285mL/ha	
Seed Head Suppression	Bentgrass	225-400mL/ha	Apply treatments late October to late November, before Seed Heads have emerged. Add TITAN Organosilicone Surfactant. Use the higher rate where growth is excessive. Graze hard after spraying.
SOUTHERN AUSTRALIA NSW, ACT, VIC, TAS only For control/ suppression prior to establishing crops or improved pasture species	Serrated Tussock	2.5-3.8L/ha	Apply to actively growing and stress free plants. Best results May to October. **Application:** Boom spray volume of 70L/ha or more is recommended to improve plant coverage. Also see Aerial Equipment. **Surfactants:** Addition of 200mL of TITAN Organosilicone Surfactant to 100L of spraying solution may improve control of Serrated Tussock. **Site Preparation:** Burning of Serrated Tussock 10-12 months before spraying or slashing/heavy grazing (cell grazing) 2 weeks before spraying is essential for good results. **Note:** Serrated Tussock is almost indigestible and prolonged exposure can lead to starvation and death of stock. **Rates:** Use lower rate on Serrated Tussock regrowth after burning (no residual dead foliage). Use higher rate on Serrated Tussock that has been slashed or grazed (may contain some residual dead foliage).
For prevention of Seed Head emergence and seed formation	Serrated Tussock	475-795mL/ha	Apply to actively growing and stress free plants. Best results obtained during mid September-mid October. Apply prior to any Seed Head emergence. Also see Aerial Equipment. **Surfactants:** Addition of 200mL of TITAN Organosilicone Surfactant to 100L of spraying solution may improve results. **Rates:** The lower rates will be less damaging to desirable pasture species. If seed head emergence is imminent then higher rates will give better results.
NORTHERN AUSTRALIA In fallows or prior to planting a crop Cotton: Shielded Sprayers	Paradoxa Grass, Volunteer Cereals, Wild Oats	320-625mL/ha	**Rate Selection:** Use the lower rates on young weeds and increase to the higher rate where weeds are dense or well developed. Dense infestations of some weeds eg. Barnyard Grass, Liverseed (Urochloa) Grass may need follow up treatments for complete control. **Tank Mixtures:** Read and follow all label directions, restraints, plant-back and withholding periods, regional use restrictions and safety directions for the tank-mix products. Tank mixes with atrazine may give unacceptable knockdown control of certain weeds. DO NOT apply the tank-mix for control of Barnyard Grass, Liverseed Grass or Milk Thistle. Ammonium Sulfate may enhance knockdown weed control where tank mixtures of atrazine are used. **Shielded Sprayers:** Apply TITAN Titanium Herbicide to weeds growing between crop rows using a shielded sprayer. DO NOT apply in Cotton less than 20cm high. DO NOT allow spray or spray drift to contact any part of the Cotton plant as severe injury may result. **Pasture or crop establishment:** DO NOT sow into excessive trash. Excessive plant residues may be removed by grazing after treatment. Cultivation or planting may proceed from 1 hour of sunlight after application to seedling annual weeds if a satisfactory seedbed can be created for crop germination and seedling establishment.
	African Turnip Weed, Black Pigweed, Boggabri Weed, Caltrop (Yellow Vine), Deadnettle, Mintweed, Milk (Sow) Thistle, Stinkgrass (Lovegrass), Sweet Summer Grass, Variegated Thistle, Volunteer Sorghum	425-625mL/ha up to 5 true leaves or 3cm in dia/height 625mL-1.3L/ha greater than 5 true leaves or 3cm in dia/height	
	Annual Ground Cherry, Barnyard Grass, Bathurst Burr, Bladder Ketmia, Button Grass, Camel (Afgan) Melon, Caustic Weed, Columbus Grass, Liverseed Grass, Mexican Poppy, Native Millet, New Zealand Spinach, Noogoora Burr, Pigweed (up to 25cm dia.), Spear Thistle, Stinking Goosefoot, Thornapple (Datura), Turnip Weed, Wild/Prickly Lettuce, Wireweed	625mL-1.3L/ha	
	Prickly Paddy Melon	610mL-1.25L/ha plus 80mL TITAN Triclopyr 600 DO NOT add crop oil.	DO NOT add crop oil.
	Climbing Buckwheat (less than 12 leaves), Couch, Johnson Grass	1.2-1.9L/ha	Use the higher rate on plants at the flowering/seedhead stage. For Johnson Grass apply to plants with a minimum of 30cm new growth. For long term control of Couch and Johnson Grass, repeat applications will be required.
	Nutgrass (*Cyperus rotundus*)	1.9L/ha followed by 1.9L/ha	Make first application to actively growing plants when the majority of plants have reach at least the 6-8 leaf stage but preferably later. Allow for maximum re-emergence before retreating.
Sugarcane Inter-row Spraying	Annual and Perennial Grasses and Broadleaf Weeds	1.1-4.7L/ha	Apply to weeds growing between crop rows using a ground based hooded and shielded sprayer. Apply at early growth stage of crop, before formation of the cane. Apply no more than 3 applications, to a maximum of 11.4L/ha per crop. DO NOT allow spray or spray drift to contact any part of the crop as severe injury may result.

SITUATION	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
Sugarcane Ratoon spray out QLD, NSW only	Sugarcane ratoon regrowth	3.8-5.7L/ha	Apply under good growing conditions only to actively growing ratoons 60-120cm tall. DO NOT apply if plants are under stress from low moisture or water logging. Use the lower rate for suppression or where cultivation is to follow. Use higher rate for control.
Sorghum Control	Grain-sorghum (pre-harvest)	945mL-1.9L/ha	DO NOT apply if crop is under stress from low moisture, frost, cold or waterlogging. Apply when grain moisture is less than 25%. Use the higher rate where the crop has produced significant number of late tillers or where following crops will be established without further treatment. DO NOT apply to crops intended for seed production. Treatment may increase potential for crop lodging. Under any set of environmental conditions, individual varieties can vary in response to preharvest treatments. In general, varieties with a more "determinant" growth habit are more susceptible than "indeterminant" varieties.
	Grain-sorghum (post harvest)	625mL-1.3L/ha	**Slashed/grazed stubble:** Apply when fresh regrowth is at least 20cm high. Use the high rate on standing stubble or where re-growth from slashed Sorghum has advanced beyond 50cm in height.
Cotton pre-harvest	Bathurst Burr, Noogoora Burr, Winter Annual Weeds	795mL-1.6L/ha	Treatments may be applied alone or in a tank mix with TITAN Thidiazuron + Diuron Cotton Defoliant. Apply when 60% of bolls are open. When tank mixed with conditioner/ defoliant treatments, a slightly higher proportion of Cotton leaf may be retained particularly where higher rates are used and conditions are unfavourable for defoliation.
PRE-HARVEST APPLICATION As harvest aid and weed control: Wheat (*Triticum aestivum*)	Annual Weeds	850mL-3.4L/ha	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 5 days after application. DO NOT use on crops intended for seed or sprouting. 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 reduce viable seed set of weeds in: Field Peas (*Pisum sativum*), Faba Beans (*Vicia faba*)	Annual Ryegrass (*Lolium rigidum*)	300-645mL/ha	Use 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 reduce yields (in practice losses in excess of 25% can occur). Apply when the average seed moisture content is below 30%. For Faba Beans, this is indicated by the 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 sprouting.
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	645mL-1.7L/ha	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. **Chickpeas and Lentils:** Apply when physiologically mature and less than 15% green pods. **Faba Beans:** Apply when pods turn black and average seed moisture content is below 30%. **Field Peas:** Apply when seeds tum yellow and average seed moisture content is below 30%. **Mungbeans/Adzuki Beans and Cowpea:** Apply to mature crops when pods are brown/black. **Soybean:** Apply only after seed pods have lost all green colour and 80-90% of leaves have dropped. DO NOT harvest within 7 days of application. Speed of crop desiccation is dependent on crop stage, growing conditions and weather conditions during and after application.

SITUATION	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
Pastures, Forests Commercial and Industrial areas, Rights-of-way, Domestic and Public areas	Blackberry, Volunteer Pine Wildlings (suppression only)	**Service areas Handgun or Knapsack:** 250mL TITAN Titanium Herbicide plus 3g TITAN Metsulfuron 600 WG per 100L of water **Aerial or Boom for Blackberry and Volunteer Pine Wildlings:** 5L plus 60g TITAN Metsulfuron 600 WG per ha **For Bracken:** 2.5L plus 30g TITAN Metsulfuron 600 WG	For Blackberries, apply from flowering until prior to leaf yellowing. Due to widespread picking of Blackberries by the public, it is not recommended that the product be applied to bushes bearing mature fruit. Application to Pine Wildlings less than 50cm in height should be controlled when actively growing. Use TITAN Organosilicone Surfactant at the rate of 200-500mL per 100L water.
	Bracken		For Bracken, apply when fronds are fully unfurled but prior to first frosts. For boom application, refer to Boom Application section. Use TITAN Organosilicone Surfactant at the rate of 200-500mL per 100L of water.
	Gorse		For Gorse, apply when actively growing at any time of year, except spring. Use TITAN Organosilicone Surfactant at the rate of 200-500mL per 100L of water.
	Lantana		For Lantana, apply when actively growing. DO NOT apply during periods of summer drought stress. Use TITAN Organosilicone Surfactant at the rate of 200-500mL per 100L of water.
	St John's Wort	**Service areas Handgun or Knapsack:** 250mL TITAN Titanium Herbicide plus 3g TITAN Metsulfuron 600 WG per 100L of water **Aerial or Boom for Blackberry and Volunteer Pine Wildlings:** 5L plus 60g TITAN Metsulfuron 600 WG per ha **For Bracken:** 2.5L plus 30g TITAN Metsulfuron 600 WG per ha	For St John's Wort, apply when actively growing from spring to summer. Use TITAN Organosilicone Surfactant at the rate of 200-500mL per 100L of water.
	Sweet Briar		For Sweet Briar, apply when in full leaf, prior to leaf fall. Use TITAN Organosilicone Surfactant at the rate of 200-500mL per 100L of water.

SITUATION	CRITICAL COMMENTS READ APPLICATION CHECKLIST BEFORE USING. See Annual, Perennial and Woody weeds sections below for most appropriate rate.
GENERAL WEED CONTROL For General Weed Control in Domestic Areas (Home Gardens), Commercial, Industrial and Public Service Areas, Agricultural Buildings and other Farm Situations. For Specific Weeds Refer to the appropriate Weeds Controlled Table.	For the control of many grasses and broadleaf weeds. **Rate:** 6.5mL per litre of water. Apply when weeds are actively growing. Apply to ensure complete and uniform wetting of foliage. Visible symptoms may take from 3 to 7 days to develop.
Agricultural Areas	TITAN Titanium Herbicide may be used for control of annual, perennial and woody 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 only	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.
Forests	TITAN Titanium Herbicide may be used prior to establishment of nurseries, for site preparation prior to planting and amongst established trees using a directed or shielded spray, or using selective wiper equipment. DO NOT allow wiper surface to contact any part of the tree. DO NOT allow spray or spray drift to contact foliage.
Non-Agricultural areas around buildings, Commercial and Industrial areas, Domestic and Public Service areas, Right-of-ways	TITAN Titanium Herbicide does not provide residual weed control. For residual control of annual weeds, TITAN Titanium Herbicide may be tank mixed with certain residual herbicides. See Tank Mixtures/Compatibility.
Tree and Vine Crops Vineyards, Berries and other small fruits (excluding Strawberry), Citrus Fruits, Tropical and Sub Tropical Fruits, Pome Fruits, Stone Fruits, Tree Nuts, Duboisia, Hops, Tea	Apply as a directed or shielded spray or using wiper equipment. DO NOT apply as spray near trees or vines less than 3 years old unless they are effectively shielded from spray and spray drift. DO NOT allow wiper surface to contact any part of the tree, vine or plant. **Citrus Fruit, Nuts, Olives, Pome Fruit & Vineyards:** DO NOT allow spray or spray drift to contact green bark or stems, canes, laterals, suckers, fresh wounds, foliage or fruit. **Hops:** Apply in winter, prior to crop emerging from dormancy. **Tea:** Apply a maximum of 2.6L/ha by shielded boom or directed off-centre nozzle or 320mL/100L by direct handgun or knapsack to avoid application to the crop. **All other crops:** DO NOT allow spray or spray drift to contact any part of the plant including the trunk. **Caution:** Where split bark on Kiwifruit and green stems on Pawpaw occur, extreme care is required.

SITUATION	CRITICAL COMMENTS READ APPLICATION CHECKLIST BEFORE USING. See Annual, Perennial and Woody weeds sections below for most appropriate rate.	
Pasture	**Directed (SPOT) Application:** TITAN Titanium Herbicide is non-selective and may damage or kill any plant in the sprayed area. Re-treatment and/or pasture improvement may be necessary to restrict seedling re-establishment. **Selective Application:** See Wiper Equipment. **Boom Application:** TITAN Titanium Herbicide may be used to suppress or kill existing pasture species prior to re-seeding or establishment of other crops. When spot application (spray or wiper) is undertaken, grazing stock need not be removed. **Caution:** Certain plants may be naturally toxic to stock. Where known toxic plants are present do not allow stock to graze until complete browning of treated plants has occurred.	
WEEDS CONTROLLED	**RATE**	**CRITICAL COMMENTS**
ANNUAL WEEDS Amaranth, Bathurst Burr, Barley Grass, Brome Grass, Barnyard Grass, Caltrop, Canary Grass, Capeweed, Chickweed, Cobbler's Peg, Deadnettle, Doublegee, Fumitory, Ground Cherry, Hedge Mustard, Lesser Swinecress, Liverseed Grass, Mintweed, Noogoora Burr, Paradoxa Grass, Paterson's Curse, Pigweed, Potato Weed, Ryegrass, Saffron Thistle, Silvergrass, Sow Thistle, Spear Thistle, Spiny Burrgrass, Spurge, Sub-clover, Thornapple, Wild Mustard, Wild Oats, Wild Turnip, Winter Grass, Variegated Thistle, Volunteer Cereal	**Boom:** 1.27-1.9L/ha **Handgun:** 310-455mL per 100L **Knapsack:** 45-65mL per 15L	Apply to weeds whenever they are not subject to stress due to drought or frost. Use higher rate on weeds over 15cm in height or diameter or where dense weed cover limits spray coverage. Use higher spot spraying rate when applying less than 5L spray per 100 sqm. TITAN Titanium Herbicide does not provide residual weed control. Repeat treatments may be necessary to control later germinating weeds. For residual control of annual weeds TITAN Titanium Herbicide may be tank mixed with certain residual herbicides. See Tank Mixtures in the General Instructions. For direction, DO NOT use an atrazine tank-mix for control of Barnyard Grass or Liverseed Grass.
PERENNIAL WEEDS Artichoke Thistle, African Lovegrass, Bentgrass, Carpet Grass, Cocksfoot, Flatweed, Johnson Grass, Kangaroo Grass, Kikuyu, Nutgrass (*Cyperus rotundus*), Paspalum, Phalaris, Plantains, Poa Tussock, Prairie Grass, Qld Blue Grass, Red-leg Grass, Rhodes Grass, Rope Twitch, Sorrel, Soursob, Yorkshire Fog	**Boom:** 1.8-3.7L/ha **Handgun:** 445-625mL per 100L **Knapsack:** 65-95mL per 15L	Control of established perennials is best obtained when plants are at the seedhead stage. In general best control of winter growing perennials is obtained with application during winter-spring. Best control of summer growing perennials is obtained with application late summer and autumn. For Nutgrass in cultivated situations apply sequential low rate treatments when Nutgrass has a minimum of 6-8 leaves. Use the higher rate in uncultivated situations. For Rhodes Grass, Rope Twitch, Prairie Grass, Qld Blue Grass, Johnson Grass, Kangaroo Grass, Kikuyu, Red-leg Grass, Paspalum and Sorrel, use the higher rates only.
Blady Grass, Bracken, Couch, Guinea Grass, Paragrass, Silverleaf Nightshade, Water Couch Use on Dry Drains and Channels ONLY (see Use Situations Critical Comments above)	**Boom:** 5.6L/ha **Handgun:** 825mL or 1.27L per 100L	For Bracken add TITAN Organosilicone Surfactant at 200-500mL/100L spray mix. Best control of Couch in WA and SA is obtained with spring treatment. Most effective control of Couch in eastern states is obtained with summer and autumn treatments. In cultivated situations use sequential treatments of 1.8-4.0L/ha for control. Only use higher rate for handgun and knapsack for Silverleaf Nightshade.
WOODY WEEDS Bamboo, Bitou Bush, Boneseed, Boxthorn, Crofton Weed, Gorse, Groundsel Bush, Lantana, Mistflower	**Handgun:** 310-625mL per 100L **Knapsack:** 45-95mL per 15L	Apply to actively growing plants. DO NOT apply to drought stressed plants. Further treatment may be necessary to restrict seedling re-establishment. **Bamboo:** Apply when foliage/regrowth is 1-2m tall, use higher rate only. **Bitou Bush/Boneseed:** Apply higher rate on bushes greater than 1.5m. Best results are achieved when treated at peak flower during winter. **Boxthorn:** Minimum rate is 450mL for handgun and 65mL for knapsack. **Groundsel Bush:** apply higher rate on bushes greater than 2m. DO NOT apply in winter. Minimum rate is 450mL for handgun and 65mL for knapsack. Gorse, always add Pulse at 200-500mL/100L of spray mix, use higher rate only. **Lantana:** Use higher rate only. Addition of TITAN Organosilicone Surfactant (200-500mL/100L) may improve control. **Boxthorn, Gorse, Lantana:** Removal of bushes (after complete brownout), pasture improvement or further treatment are recommended to control seedlings and/or regrowth.

SITUATION	CRITICAL COMMENTS READ APPLICATION CHECKLIST BEFORE USING. See Annual, Perennial and Woody weeds sections below for most appropriate rate.	
Blackberry, Chinese Scrub, *Eucalyptus* spp. (seedlings less than 2m), Hawthorn, Pampas Grass, Sifton Bush, Sweet Briar, Willow (less than 2m)	**Handgun:** 625-825mL per 100L **Knapsack:** 95-135mL per 15L	Apply to actively growing plants. Removal of bushes (after complete brownout), pasture improvement or further treatment are recommended to control seedlings and/or regrowth. **Blackberry:** Apply from flowering to leaf fall, use higher rate on old dense infestations greater than 2m high. In Tasmania, DO NOT treat bushes bearing mature fruit. **Chinese Scrub:** Use higher rates on bushes greater than 1m. ***Eucalyptus* spp.:** Add TITAN Organosilicone Surfactant at 200-500mL/100L of spray mix. **Hawthorn:** Apply from flowering to leaf fall, use higher rates on bushes greater than 2m. **Pampas Grass:** Allow regrowth to reach 1m, best results – apply after flowering. **Sifton Bush:** Use higher rates on bushes greater than 1m. **Sweet Briar:** Apply from late flowering to leaf fall, use 950mL-1.3L/100L and 140-190mL/15L, use higher rates on bushes greater than 1.5m.

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

WITHHOLDING PERIODS
GRAZING
WHEAT: DO NOT GRAZE OR CUT FOR STOCKFOOD FOR 5 DAYS AFTER APPLICATION.
FOR OTHER CROPS: NOT REQUIRED WHEN USED AS DIRECTED.

HARVEST
WHEAT: DO NOT HARVEST WITHIN 5 DAYS AFTER APPLICATION.
SORGHUM AND LEGUMES: DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.
ALL OTHER USES: NOT REQUIRED WHEN USED AS DIRECTED.

TANK MIXTURES: REFER TO TANK MIX PARTNER LABEL AND FOLLOW ACCORDINGLY.

TRADE ADVICE – Export of Treated Produce: Growers should note that MRLs or import tolerances do not exist in all markets for produce treated with TITAN Titanium Herbicide. If you are growing produce for export, please check with TITAN AG Pty Ltd for the latest information on MRLs and import tolerance before using TITAN Titanium Herbicide.

TITAN AG CROP PROTECTION

GENERAL INSTRUCTIONS

PRODUCT INFORMATION

TITAN Titanium Herbicide is a non-volatile, non selective, water soluble liquid herbicide for the control of annual and perennial grasses and broadleaf weeds in a wide range of agricultural and non-agricultural use situations. TITAN Titanium Herbicide may be used for weed control on agricultural land prior to planting any edible or non edible crop but not prior to transplanting tomatoes. When applying this product prior to transplanting crops into plastic mulch, care must be taken to remove residues of this product from the plastic prior to transplanting. Residues can be removed by 20mm of natural rainfall or by applying water via a sprinkler irrigation system.

TITAN Titanium Herbicide is absorbed by plant foliage and green stems. It is inactivated on clay and organic matter in soil and does not provide residual weed control. TITAN Titanium Herbicide moves throughout the plant from the point of contact to and into the root system. Initial visible effects on annual weeds take days but may not be noticeable for 2 to 3 weeks under cool cloudy conditions or on some perennial weeds. TITAN Titanium Herbicide will not control Roundup Ready® Canola volunteers at any leaf stage.

CROP ESTABLISHMENT

TITAN Titanium Herbicide is recommended for control of emerged weeds prior to crop establishment. Cultivation and/ or planting operations which provide conditions suitable for crop emergence and establishment are required following herbicide application. Where heavy weed growth is present or soil conditions are unsuitable, planting should be delayed to allow for decay of weeds and/or development of more favourable soil conditions for the formation of a suitable seedbed. Incorporation of green or decaying vegetation may retard crop emergence under cold, wet conditions. Vegetation may be reduced by grazing and weed decay may be assisted by cultivation to leave trash on the surface.

GRAZING

A grazing withholding period is required for wheat but for other crops a withholding period for grazing is not required. However, it is recommended that grazing of treated plants be delayed to ensure herbicide uptake. Certain plants such as Soursob, Variegated Thistle, Sorghum and Johnson Grass may be naturally toxic to stock when eaten in large quantities under certain conditions. Where plants are known to be toxic, grazing should be delayed until complete desiccation of treated plants has occurred.

MIXING

TITAN Titanium Herbicide mixes readily with water. Reduced results may occur if water is used containing suspended clay or organic matter eg. from dams, streams and irrigation channels, or high levels of calcium, magnesium or bicarbonate ions. DO NOT mix, store or apply this product in galvanized steel or unlined steel containers or spray tanks, since a highly flammable gas mixture may be formed. Use stainless steel, aluminium, brass, copper, fibreglass, plastic or plastic lined containers or spray tanks. Spray tanks, pumps, lines and nozzles should be thoroughly cleaned with clean water following application. Ensure that the spray tank is free of any residue of other spray solutions prior to mixing. Use spray solutions promptly as a gradual loss of activity may occur over a period of days following spray preparation.

Mixing Instructions – General Uses

1. Fill the spray tank 1/3 to 1/2 full with clean water and start agitation.
2. If adding adjuvant (ammonium sulphate), use a 2% v/v and mix thoroughly.
3. If tank-mixing, add recommended herbicide/insecticide/additive to the spray tank and mix thoroughly.
4. Add TITAN Titanium Herbicide and the remaining water. Mix thoroughly.
5. Add TITAN Organosilicone Surfactant, if required, near the end of the filling process.
6. Always maintain adequate agitation during application and use the tank mix promptly. Clean all equipment after use by washing thoroughly with water.

TANK MIXTURES

TITAN Titanium Herbicide may be tank-mixed with the following herbicides, insecticides and adjuvants. Read and follow all label directions, restraints, and plantback withholding periods and safety directions for the tank-mix products. In multiple product tank mixes a minimum water volume of 50L/ha is recommended and local advice should be sought. Correct mixing order is important as is good intank agitation when application/spraying is occurring.

TANK MIXTURES – HERBICIDES

TITAN LV Ester 680 Herbicide, TITAN Amine 475 Herbicide, TITAN Metsulfuron 600 WG Herbicide, TITAN Carfentrazone 240 EC Herbicide, TITAN Atrazine 600 SC Herbicide, TITAN Atrazine 900 WG Herbicide, TITAN Triallate 500 EC Herbicide, TITAN Dicamba 500 Herbicide, TITAN Tribenuron 750 WG Herbicide, products containing 100g/L Metosulam, TITAN Imazapic 240 Herbicide, TITAN Triclopyr 600 Herbicide, products containing Aminopyralid present as Triisopropanolamine Salt and Fluroxypry as the Methyl Heptyl Ester, TITAN Chlorsulfuron 750 WG Herbicide, TITAN Oxyfluorfen 240 EC Herbicide, TITAN Triasulfuron 750 WG Herbicide, TITAN Triasulfuron 520 + Butafenacil 200 WG Herbicide (ensure fully dispersed pre addition of Titanium), TITAN Clopyralid 300 Herbicide, TITAN MCPA LVE 570 Herbicide, TITAN Sulfosulfuron 750 WG Herbicide, products containing Sulfometuron-methyl, TITAN Pendimethalin 440 EC Herbicide, TITAN Fluoroxypyr 400 Herbicide, TITAN Fluroxypyr 333 EC Herbicide, Oryzalin 500, TITAN Trifluralin 480 Selective Herbicide and TITAN Trifluralin-Oryzalin 250 EC Selective Herbicie. The addition of TITAN Oxyfluorfen 240 EC Herbicide at 75mL/ha to recommended rates of TITAN Titanium Herbicide prior to planting winter cereals will improve knockdown of certain weeds.

TANK MIXTURES – INSECTICIDES

TITAN Alpha-Duo 100 Insecticide, Phosmet 150g/L, Omethoate 290, TITAN Chlopyrifos 500 Termiticide and Insecticide, TITAN Dimethoate 400 Systemic Insecticide, TITAN Lambda-Cyhalothrin 250 CS Insecticide, TITAN Bifenthrin 100 Insecticide/Miticide and emulsifiable concentrates of dimethoate and fenitrothion. Other insecticides have not been tested.

TANK MIXTURES – ADJUVANTS

TITAN 700 Surfactant at rates of 300mL-500mL per 100L, TITAN 700 Surfactant may modify the droplet spectrum produced by CP and flat fan nozzles. This may reduce the proportion of FINE droplets produced by these nozzles. TITAN 700 Surfactant can be used to reduce pH in hard water situations, assisting uptake.

TITAN Organosilicone Surfactant

TITAN Organosilicone Surfactant is recommended for the control of Silvergrass and Annual Ryegrass in late winter and spring. TITAN Organosilicone Surfactant is not a general purpose surfactant and should only be used where recommended.
Rate: 200mL/100L spray solution.

TITAN 700 Surfactant

TITAN 700 Surfactant is recommended for the control of Bracken and many woody weeds.
Rate: 200-500mL/100L spray solution.

TITAN AMS Spray Grade Herbicide Adjuvant may be used as an adjuvant to alleviate the adverse effects of high levels of calcium, magnesium and bicarbonate ions in water.
Rate: 2L/100L spray solution.

DO NOT use adjuvants, surfactants or other pesticides other than those recommended on this label. DO NOT use crop oil except when tank mixing with a herbicide for which an oil adjuvant is recommended to be used. The addition of a crop oil can reduce control of some grass weeds, particularly in summer.

APPLICATION

Boom Equipment

For Broadacre boom application, a spray volume of 80L/ha or less is recommended for broadacre uses and 200L/ha or less for treeline and vineline spraying in orchards and vineyards. Glyphosate works better when it is present at a higher concentration in the spray solution provided sufficient coverage of the target is achieved. Nozzles and pressure settings should be selected to deliver a COARSE to VERY COARSE droplet size category at the target. The use of nozzles and/or pressure settings that produce VERY FINE or FINE droplet size category should be avoided as these are prone to loss or drift. In multiple product tank mixes a minimum water volume of 50L/ha is recommended and local advice should be sought. Correct mixing order is important as is good in-tank agitation when application is occurring. For shielded applications a spray volume of 80L/sprayed ha is recommended using nozzle types and pressure settings to deliver a COARSE droplet size category at the target. Crop damage may result if spray drift occurs through incorrect nozzle and/or pressure selection, inadequate shielding and/or wind strength, high evaporation rates or excessive ground speed.

High Volume Application (e.g. Knapsack, Handgun Equipment)

The dilution rate varies depending on the use situation and weeds controlled – see Weeds Controlled tables for specific rates and use recommendation. Adjust equipment to achieve an even spray pattern with a COARSE droplet size category at the target. Apply to ensure complete and uniform wetting of all foliage.

TITAN AG CROP PROTECTION

Wiper Equipment
Wiper equipment (eg. Ropewick, canvas, felt or carpet applicators) may be used to apply Titanium. Avoid contact with desirable vegetation. Operate wiper equipment a minimum of 10cm above the crop or pasture. Weeds should be at least 15cm above the crop or pasture at time of application. Speed of travel should be no greater than 8km/h. Best results are achieved at lower speeds and where two applications are made in opposite directions (double pass). Where weeds are of variable height, or occur in dense infestations or clumps, some plants may not be contacted by the herbicide solution. In these cases repeat treatment may be necessary.

Rate: Mix 665mL TITAN Titanium Herbicide with 2.3L clean water. Adjust flow rate to suit equipment.

Controlled Droplet Application Equipment (CDA)
TITAN Titanium Herbicide can be applied through hand held and machine mounted CDA sprayers. See Weeds Controlled tables for specific rates and use recommendations. Due to the range of CDA equipment available, dilution rates, flow rates and travel speeds will need to be determined for individual sprayers to ensure labelled rates are applied. Use of TITAN Titanium Herbicide at concentrations recommended for TITAN Titanium Herbicide can result in uneven droplet distribution. Spray units need to be cleaned thoroughly, preferably after each application to ensure optimum performance.
DO NOT add oils to TITAN Titanium/water mixture, otherwise difficulty in application and reduced weed control may occur. Because CDA units may deliver relatively low spray volumes per hectare, use on large weeds may result in insufficient coverage resulting in inadequate weed control.

Caution: CDA equipment produces a fine spray pattern which is not easily visible. Ensure spray pattern or drift does not contact foliage or any other green tissue of desirable plants, since severe injury or destruction may result.

Aerial Equipment
TITAN Titanium Herbicide may be applied by aircraft for control of weeds in forests, cropland or pasture prior to establishment of crops, new pastures or new forest plantings and for pre-harvest applications, up to a maximum rate of 2.6L/ha where specified by this label.
DO NOT apply treatments by aircraft in situations where drift onto sensitive crops and pastures is likely to occur.
Apply treatments using boom or Micronair equipment using a spray volume not less than 20L/ha and using settings to produce a COARSE to VERY COARSE droplet size category. In multiple product tank mixes a minimum water volume of 50L/ha is recommended and local advice should be sought. Correct mixing order is important. Swath width should be set to take into account aircraft type, wind conditions and target height. Swath width will need to be reduced to avoid striping under light wind conditions and/or application to tall, dense targets eg, preharvest application, treatments in heavy crop stubble. Thoroughly wash aircraft after each day of spraying to remove herbicide residues. When applying this product by helicopter in combination with TITAN Metsufuron 600 WG Herbicide for the control of Blackberry and Pine Wildling suppression in forestry and other specific situations, the higher rate of TITAN Titanium Herbicide may be applied. Refer to the TITAN Metsufuron 600 WG Herbicide label for specific recommendations and application recommendations.

Application on hilly terrain
For aerial application on hilly terrain, increase water volume to 30-80L/ha and use a COARSE droplet size category to optimise spray coverage.

Air temperature and relative humidity
DO NOT apply TITAN Titanium Herbicide by aircraft at temperatures above 30°C. Increase spray output to at least 30L/ha when temperatures rise above 25°C. Avoid application when relative humidity falls below 35%.

Environmental factors
- DO NOT treat weeds under poor growing conditions due to moisture stress, waterlogging, severe frosting, insect damage etc. Reduced performance may also occur where weeds are covered with dust or silt.
- Rain within 1 hour of application which causes run-off may require re-treatment. Rainfastness is reduced if weeds are not actively growing, under stress or conditions of low light intensity/darkness. The addition of TITAN Organosilicone Surfactant may improve rainfastness on winter annual weeds.
- Apply treatments to weeds which have at least one true leaf (broadleaf weeds) or two leaves (grasses) to provide an adequate surface area for herbicide uptake.
- If heavy grazing has occurred, allow regrowth to 6-8cm before spraying and use the higher rates recommended.

RESISTANCE WEEDS WARNING

GROUP **9** HERBICIDE

TITAN Titanium Herbicide is a member of the Glycines group of herbicides. TITAN Titanium Herbicide has the inhibition of EPSP synthase mode of action. For weed resistance management TITAN Titanium Herbicide is a Group 9 Herbicide. Some naturally occurring weed biotypes resistant to TITAN Titanium Herbicide and other inhibitors of EPSP Synthase mode of action 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 Titanium 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 Titanium Herbicide to control resistant weeds.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS
Avoid contact with foliage, green bark or stems, canes, laterals, suckers, fresh wounds, exposed non-woody roots, flowers or fruit of crop, desirable plants and trees, since severe injury or destruction may result. DO NOT apply under weather conditions, or from spraying equipment that may cause spray to drift onto nearby susceptible plants/crops, cropping lands or pastures.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT
DO NOT contaminate wetlands or watercourses with this 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
Store in the closed, original container in a cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight. Triple-rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on-site. If recycling, replace cap and return 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 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.

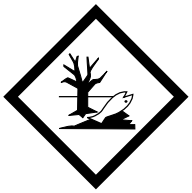
SAFETY DIRECTIONS
Will irritate the eyes. May irritate the nose and throat. Repeated exposure may cause allergic disorders. Avoid contact with eyes and skin. When opening the container, preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) elbow-length PVC gloves and face shield or goggles. If product in eyes, wash it out immediately with water. Wash hands after use. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

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

SAFETY DATA SHEET
Additional information is listed in the safety data sheet (SDS). A safety data sheet for TITAN Titanium Herbicide is available from TITAN AG Pty Ltd on request. Call Customer Service on (02) 9999 6655 or visit 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: Toxic to aquatic life with long lasting effects. Precautionary Statements: Avoid release to the environment. Collect spillage. Dispose of contents/container in accordance with local/regional/national regulations.



TITAN AG CROP PROTECTION