## CAUTION

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

### TITAN

# CLETHODIM 360 HERBICIDE

ACTIVE CONSTITUENT: 360g/L CLETHODIM SOLVENT: 570g/L LIQUID HYDROCARBON

For the control of certain grass weeds in beetroot, cabbage, canola, celery, cotton, forestry, lettuce, non-bearing fruit trees, onions, ornamentals, peanuts, pulses (including adzuki beans, broad beans, chickpeas, faba beans, field peas, lentils, lupins and mung beans), potatoes, soybeans and pasture legume (lucerne, clover and medic) seed crops (and pastures) according to the Directions For Use table.

APVMA Approval No.: 82380/142736 Pack Size: 5L-1000L



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A DANGEROUS GOOD ACCORDING TO THE AUSTRALIAN DANGEROUS GOODS (ADG) CODE FOR TRANSPORT BY ROAD AND RAIL

#### **DIRECTIONS FOR USE**

#### **Restraints:**

DO NOT apply without the addition of an oil (see GENERAL INSTRUCTIONS).

DO NOT apply to plants that are stressed by moisture or temperature extremes.

DO NOT apply if rain is expected within one hour of application.

DO NOT apply more than once to any one crop.

#### 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.

CROP	CROP GROWTH Stage	WEEDS CONTROLLED	RATE mL/ha	STAGE OF WEED GROWTH	STATE	CRITICAL COMMENTS
Canola	<b>Canola:</b> DO NOT APPLY after flower buds become visible (green buds)	Annual Ryegrass (Lolium rigidum), Annual Phalaris (Phalaris minor) Barley Grass (Hordeum leporinum), Brome Grass (Bromus diandrus), Wild Oats (Avena spp.) Volunteer Wheat (Triticum aestivum),	100 to 333 116 to 333 133 to 333 (116 to 333 in	2-leaf to fully tillered	QLD, NSW, ACT, VIC, TAS, SA, WA only	Always apply with TITAN Duelling Spray Adjuvant at 1L/100L or TITAN Paraffinic Spraying Oil at 500mL/100L spray volume. The lower doses will provide effective control if applied under ideal conditions to weeds that are smaller, actively growing and free from temperature or water stress. See COMPATIBILITY and CAUTIONS in GENERAL INSTRUCTIONS for mixture recommendations with insecticides, fungicides and other herbicides.
		Volunteer Oats ( <i>Avena sativa</i> ) Volunteer Barley ( <i>Hordeum vulgare</i> )	WA only) 333			
		Silver Grass ( <i>Vulpia bromoides</i> ) – suppression only	166 to 333		NSW, ACT, VIC, TAS only	
		Paradoxa Grass ( <i>Phalaris paradoxa</i> )	166-250 250-333	2 to 5 leaf stage 5-leaf to fully tillered	QLD, NSW, ACT only	
Pulse crops (including Adzuki Beans, Broad Beans, Chickpeas, Faba Beans, Field Peas, Lentils^ and Lupins <sup>#</sup> ) Pasture Legume <sup>1</sup> (Lucerne, Clover and Medic) Seed Crops and Pastures <sup>1</sup> (including pastures containing Chicory and Plantain)	Azuki Beans: DO NOT APPLY after first flower buds are visible Chickpeas, Faba Beans, Broad Beans, Field Peas: DO NOT APPLY beyond full flowering Lentils: Apply up to the 7-node/early branching stage of crop growth Lupins: DO NOT APPLY after 80% of flowers have opened	Annual Ryegrass ( <i>Lolium rigidum</i> ), Annual Phalaris ( <i>Phalaris minor</i> )	100 to 333	2-leaf to fully tillered ACT, VIC, TAS, SA, WA only NSW, ACT, VIC, TAS only	TAS, SA,	Always apply with a crop oil. See Adjuvants and Spray Additives for specific instructions. The lower doses will provide effective control if applied under ideal conditions to weeds that are smaller, actively growing and free from temperature or water stress. See COMPATIBILITY and CAUTIONS in GENERAL INSTRUCTIONS for mixture recommendations with insecticides, fungicides and other herbicides. ^ Application up to 7-node/early branching crop growth stage only. # NOT QLD 1 See use of TITAN Clethodim 360 Herbicide in pastures under General Instructions.
		Barley Grass ( <i>Hordeum leporinum</i> ), Brome Grass ( <i>Bromus diandrus</i> ), Wild Oats ( <i>Avena</i> spp.)	116 to 333			
		Volunteer Wheat ( <i>Triticum aestivum</i> ), Volunteer Oats ( <i>Avena sativa</i> )	133 to 333 (116 to 333 in WA only)			
		Volunteer Barley ( <i>Hordeum vulgare</i> ) Silver Grass ( <i>Vulpia bromoides</i> ) –	333 166 to 333		NSW, ACT, VIC, TAS	
		suppression only Paradoxa Grass ( <i>Phalaris paradoxa</i> )	166-250		only QLD, NSW,	
			250-333			



CROP	CROP GROWTH Stage	WEEDS CONTROLLED	RATE mL/ha	STAGE OF WEED GROWTH	STATE	CRITICAL COMMENTS
Cotton (QLD, NSW and NT only), Peanuts, Mung Beans, Soybeans Pasture Legume <sup>1</sup> (Lucerne, Clover and Medic) Seed Crops and Pastures <sup>1</sup> (including pastures containing Chicory and Plantain)	Cotton: DO NOT APPLY after full flowering (mid bloom) Peanuts: DO NOT APPLY after the pod fill stage of crop development Mung Beans, Soybeans: DO NOT APPLY after first flower buds are visible	Barnyard Grass ( <i>Echinochloa</i> spp.), Blown Grass ( <i>Agrostis aveacea</i> ), Crowsfoot Grass ( <i>Eleusine indica</i> ), Feathertop Rhodes Grass ( <i>Chloris virgata</i> ), Liverseed Grass ( <i>Urochloa panicoides</i> ), Red Sprangletop Grass ( <i>Leptochloa filiformis</i> ), Seedling Johnson Grass <sup>2</sup> ( <i>Sorghum halepense</i> ), Summer Grass ( <i>Digitaria</i> spp.), Volunteer Sorghum ( <i>Sorghum</i> spp.)	166 to 250 250-333	2 to 5 leaf stage 5-leaf to fully tillered	QLD, NSW, ACT, VIC, WA, NT only	<ul> <li>Always apply with TITAN Duelling Spray Adjuvant at 500mL/100L spray volume.</li> <li>The lower doses will provide effective control if applied under ideal conditions to weeds that are smaller, actively growing and free from temperature or water stress.</li> <li>1 See COMPATIBILITY and CAUTIONS in GENERAL INSTRUCTIONS for mixture recommendations with insecticides, fungicides and other herbicides.</li> <li>2 Only Johnson Grass seedlings germinating from seed will be controlled. Seedlings that appear later as shoots from underground stems will not be controlled and more than one application may be required to control emerging shoots.</li> </ul>
CROP	WEEDS CONTROLLED		RATE mL/ha	STAGE OF WEED GROWTH	STATE	CRITICAL COMMENTS
Beetroot, Cabbage, Celery, Lettuce, Potatoes, Onions	Barnyard Grass ( <i>Echinochloa</i> spp.), Blown Grass ( <i>Agrostis aveacea</i> ), Crowsfoot Grass ( <i>Eleusine indica</i> ), Feathertop Rhodes Grass ( <i>Chloris virgata</i> ), Liverseed Grass ( <i>Urochloa panicoides</i> ), Paradoxa Grass ( <i>Phalaris paradoxa</i> ), Red Sprangletop Grass ( <i>Leptochloa filiformis</i> ), Seedling Johnson Grass <sup>1</sup> ( <i>Sorghum halepense</i> ), Summer Grass ( <i>Digitaria</i> spp.), Volunteer Sorghum ( <i>Sorghum</i> spp.)		166 to 250 250-333	2 to 5 leaf stage 5-leaf to fully tillered	ALL STATES	<ul> <li>Always apply with TITAN Duelling Spray Adjuvant at 1L/100L or TITAN Paraffinic Spraying Oil at 500mL/100L spray volume.</li> <li>The lower doses will provide effective control if applied under ideal conditions to weeds that are smaller, actively growing and free from temperature or water stress.</li> <li>Use a spray volume of 150L/ha when spraying dense grass populations.</li> <li>1 Only Johnson Grass seedlings germinating from seed will be controlled. Seedlings that appear later as shoots from underground stems will not be controlled and more than one application may be required to control emerging shoots.</li> </ul>
	Annual Ryegrass ( <i>Lolium rigidum</i> ), Annual Phalaris ( <i>Phalaris minor</i> ) Barley Grass ( <i>Hordeum leporinum</i> ), Brome Grass ( <i>Bromus diandrus</i> ),		100 to 333 116 to 330	2-leaf to fully tillered	ALL STATES	Always apply with TITAN Duelling Spray Adjuvant at 500mL/100L spray volume. The lower doses will provide effective control if applied under ideal conditions to weeds that
	Wild Oats (Avena spp.)         Volunteer Wheat (Triticum aestivum),         Volunteer Oats (Avena sativa)         Volunteer Barley (Hordeum vulgare)         Silver Grass (Vulpia bromoides)         – suppression only (not QLD, WA)         Winter Grass (Poa annua)		133 to 333 (116 to 333 in WA only)			are smaller, actively growing and free from temperature or water stress. Use a spray volume of 150L/ha when spraying dense grass populations.
			333 166 to 333 333			
Forestry, non-bearing fruit trees and ornamentals	Annual Ryegrass Annual Phalaris ( Barley Grass ( <i>Hoi</i> Barnyard Grass ( <i>A</i> Blown Grass ( <i>A</i> Brome Grass ( <i>Br</i> Crowsfoot Grass Feathertop Rhode Liverseed Grass ( Paradoxa Grass ( Red Sprangletop Seedling Johnsor Silver Grass ( <i>Vul</i> – suppression on Summer Grass ( <i>U</i> Volunteer Barley Volunteer Oats ( <i>A</i> Volunteer Sorghu	(Lolium rigidum), Phalaris minor), rdeum leporinum), Echinochloa spp.), rostis aveacea), omus diandrus), (Eleusine indica), es Grass (Chloris virgata), (Urochloa panicoides), Phalaris paradoxa), Grass (Leptochloa filiformis), n Grass <sup>1</sup> (Sorghum halepense), bia bromoides) Ily (not QLD, WA), Digitaria spp.), (Hordeum vulgare), Nena sativa), m (Sorghum spp.), (Triticum aestivum),	330	2-leaf to fully tillered	ALL STATES	<ul> <li>Apply after plants have recovered from transplant shock and are showing signs of active growth.</li> <li>Always apply with TITAN Duelling Spray Adjuvant at 1L/100L or TITAN Paraffinic Spraying Oil at 500mL/100L spray volume.</li> <li>Use a spray volume of 150L/ha when spraying dense grass populations.</li> <li>DO NOT use on Gymnosperms (pines, conifers etc.) unless a prior test has been conducted to check safety on the relevant species.</li> <li>See COMPATIBILITY and CAUTIONS in GENERAL INSTRUCTIONS for particular species.</li> <li>1 Only Johnson Grass seedlings germinating from seed will be controlled. Seedlings that appear later as shoots from underground stems will not be controlled and more than one application may be required to control emerging shoots.</li> </ul>

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



#### WITHHOLDING PERIODS: HARVEST

Pasture Legume (Lucerne, Clover and Medic) Seed Crops and Pastures: NOT REQUIRED WHEN USED AS DIRECTED.

Canola, Cotton, Peanuts, Pulses (Adzuki Beans, Broad Beans, Chickpeas, Faba Beans, Field Peas, Lentils, Lupins and Mung Beans) and Soybeans: NOT REQUIRED WHEN USED AS DIRECTED.

Forestry: NOT REQUIRED WHEN USED AS DIRECTED.

Beetroot, Cabbage: DO NOT APPLY LATER THAN 7 DAYS BEFORE HARVEST. Onions: DO NOT APPLY LATER THAN 14 DAYS BEFORE HARVEST. Lettuce, Potatoes: DO NOT APPLY LATER THAN 4 WEEKS BEFORE HARVEST.

Celery: DO NOT APPLY LATER THAN 9 WEEKS BEFORE HARVEST. Grazing

Pasture Legume (Lucerne, Clover and Medic) Seed Crops and

Pastures: DO NOT GRAZE OR CUT FOR STOCK FEED FOR 14 DAYS AFTER APPLICATION.

Canola, Cotton, Peanuts, Pulses (Adzuki Beans, Broad Beans, Chickpeas, Faba Beans, Field Peas, Lentils, Lupins and Mung Beans) and

Soybeans: DO NOT GRAZE OR CUT FOR STOCK FEED FOR 21 DAYS AFTER APPLICATION.

Cotton: DO NOT GRAZE OR CUT COTTON FORAGE OR STUBBLE FOR STOCK FEED.

#### **GENERAL INSTRUCTIONS**

#### **CLEANING SPRAY EQUIPMENT**

**Before using TITAN Clethodim 360 Herbicide:** Ensure that the recommended clean–out procedures for the previous product (particularly sulfonylurea herbicides) sprayed with the equipment was done properly.

After using TITAN Clethodim 360 Herbicide: Empty the tank and drain the whole system. Thoroughly wash inside the tank using a pressure hose, drain the tank and clean filters in the tank, pump line and nozzles. Use of a household detergent will aid in the cleaning of the equipment. Add detergent to the part-filled spray tank and thoroughly circulate through pumps, hoses and nozzles. Drain the system and thoroughly rinse twice with clean water. Rinse water should be discharged onto a designated disposal area, or if this is unavailable, onto unused land away from desirable plants and water sources.

#### MIXING

To ensure even mixing, half-fill the spray tank with clean water, add the required amount of TITAN Clethodim 360 Herbicide. Add spray additive and agitate thoroughly, then add the remainder of the water. Agitate again before spraying commences.

#### **ADJUVANTS AND SPRAY ADDITIVES**

Always apply TITAN Clethodim 360 Herbicide with a crop oil. TITAN Clethodim 360 Herbicide may be applied with TITAN Duelling Spray Adjuvant at 1L/100L water or with TITAN Paraffinic Spraying Oil at 0.5-1L/100L water. (Use the higher rate of oil when weeds are large or if spraying conditions are less than optimal.)

TITAN Clethodim 360 Herbicide is compatible with ammonium sulphate products such as TITAN AMS Liquid Herbicide Adjuvant. When mixing TITAN Clethodim 360 Herbicide with atrazine use TITAN Paraffinic Spraying Oil at 1L/100L as the adjuvant. The addition of ammonium sulphate is recommended to improve performance of this tank mix. TITAN Clethodim 360 Herbicide is not compatible with TITAN Organosilicone Surfactant.

#### APPLICATION

**Ground Application:** TITAN Clethodim 360 Herbicide should be applied with calibrated spray equipment. DO NOT apply with spray droplets smaller than a MEDIUM spray droplet size category. Apply in a minimum of 50 litres of water per hectare. Use 150L/ha when spraying dense populations.

**Aerial Application:** TITAN Clethodim 360 Herbicide can be applied through aircraft fitted with boom or Micronair equipment. D0 NOT apply with spray droplets smaller than a MEDIUM spray droplet size category. A spray volume of 20 to 30L/ha is recommended. Best results will be obtained when aerial applications are made in a light crosswind. Applications should not be made during temperature inversions or in conditions of very low relative humidity. Care should be taken to avoid drift damage to adjoining grass crops.

#### USE OF TITAN CLETHODIM 360 HERBICIDE ON PASTURE LEGUME (LUCERNE, CLOVER AND MEDIC) SEED CROPS AND PASTURES AND PASTURE HERBS

TITAN Clethodim 360 Herbicide has been demonstrated to be safe when applied to the following cultivars during early establishment:

Pasture Legumes

- Clover (*Trifolium* spp.)
- <u>Annual:</u> Subterranean Clover (Dalkeith, Dalsa, Goulburn, Koala, Nungarrin, Riverina, Seaton Park and York A), Arrowleaf Clover (Zulu II), Balansa Clover (Enduromax, Frontier, Paradana), Berseem Clover (Elite II), Gland Clover (Prima), Persian Clover (Prolific, Leeton), Rose Clover (Hykon).
- Perennial: Strawberry Clover (Palestine), White Clover (NuSiral).
- Lucerne and Medics (*Medicago* spp.) Lucerne (Aurora, Field, Genesis, Hunterfield, Multileaf, Salado, Sardi SEVEN, Sceptre and Venus), Barrel Medic (Sephi, Jester Paraggio, Caliph), Burr Medic (Scimitar, Santiago), Snail Medic (Silver).
- Serradella (Ornithopus spp.), French or Pink Serradella (Cadiz), Yellow Serradella (Charano, Santorini).
- <u>Pasture Herbs</u>: Chicory (Puna II) and Plantain (Tonic). Apply TITAN Clethodim 360 Herbicide when plants have reached 2-4 trifoliate leaf stage, or after 40 days from sowing. Some pasture varieties may exhibit an initial reduction in crop vigour or biomass, however, these symptoms are transient and crops recover fully with no effect on yield.

#### COMPATIBILITY

**Note:** In all situations where TITAN Clethodim 360 Herbicide is mixed with another grass herbicide, TITAN Clethodim 360 Herbicide should be used at the full label rate specified for the target weed species.

TITAN Clethodim 360 Herbicide is compatible with atrazine. Avoid using this tank mix when crops are stressed by environmental factors. When mixing TITAN Clethodim 360 Herbicide with atrazine use TITAN Paraffinic Spraying Oil at 1L/100L as the adjuvant. The addition of an ammonium sulphate product such as TITAN AMS Liquid Herbicide Adjuvant is recommended to improve performance of this tank mix.

TITAN Clethodim 360 Herbicide should not be applied in a tank mix with Chlorothalonil, Diflufenican, Bentazone and MCPA or Aciflurofen. Apply as separate applications. For information on compatibility of products not listed, please refer to TITAN AG Pty Ltd.

#### CAUTION

**Ornamentals and Trees** – While TITAN Clethodim 360 Herbicide is generally selective to broadleaved plants (i.e. it is active against grasses), tests should always be made on a small number of plants not previously tested. DO NOT use on Gymnosperms (pines, conifers, etc) unless a prior test has been conducted to check safety on the relevant species.

#### **RESISTANCE WEEDS WARNING**

TITAN Clethodim 360 Herbicide is a member of the cyclohexanedione group of herbicides. TITAN



Clethodim 360 Herbicide has the inhibition of acetyl coA carboxylase mode of action. For weed resistance management, TITAN Clethodim 360 Herbicide is a Group 1 Herbicide. Some naturally-occurring weed biotypes resistant to TITAN Clethodim 360 Herbicide and other Group 1 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 Clethodim 360 Herbicide or other Group 1 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 Clethodim 360 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. TITAN Clethodim 360 Herbicide should not be applied through misting equipment or any other method likely to cause excessive drift. Care should be taken to avoid damage to adjoining native grasses or grass crops.

#### PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

DO NOT contaminate streams, rivers or watercourses with the product or used containers.

#### STORAGE AND DISPOSAL

Store in the closed, original container in a dry, cool well-ventilated area out of direct sunlight. Protect from frost.

**For Non-refillable containers:** Triple-rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on-site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500mm 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

Harmful if swallowed. Will irritate the eyes and skin. When preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length chemical resistant gloves and face shield or goggles. If product in eyes, wash it out immediately with water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

#### FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131126; New Zealand 0800 764 766. If swallowed, do NOT induce vomiting.

#### SAFETY DATA SHEET

Additional information is listed in the safety data sheet (SDS). A safety data sheet for TITAN Clethodim 360 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: Combustible liquid. May cause an allergic skin reaction. May be fatal if swallowed and enters airways. Harmful to aquatic life with long lasting effects. Precautionary Statements: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking, Avoid breathing dust/fume/gas/mist/vapours/spray. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection/ hearing protection. IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Specific treatment (see on this label). Do NOT induce vomiting. IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/ attention. In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish. Store in a well-ventilated place. Store locked up. Dispose of contents/container in accordance with local/regional/national regulations.



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