

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

TITAN

BUTROXYDIM 250 WG

HERBICIDE

ACTIVE CONSTITUENT: 250g/kg BUTROXYDIM

GROUP **1** HERBICIDE



For the control of certain grasses in a range of broadacre crops according to the Directions For Use.

APVMA Approval No.: 82121/120619

Pack Size: 500g-50kg



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WG	Formulation Type Water Dispersible Granule
IN A TRANSPORT EMERGENCY • DIAL 000 • POLICE OR FIRE BRIGADE	
 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains butroxydim) PG III Hazchem 22	

DIRECTIONS FOR USE

Restraints:

DO NOT treat weeds that are not actively growing or are growing under stress. Under such circumstances the biological processes of the weeds slow down and TITAN Butroxydim 250 WG Herbicide transport in the weed can be drastically reduced, resulting in an incomplete kill or suppression only of the weeds.

DO NOT apply to crops or weeds which are suffering moisture stress (waterlogged or drought affected), insect, disease or nutritional disorders, under conditions of prolonged high temperatures or frost affected (or if frosts are imminent) or stress from previous herbicide or foliar fertiliser treatment.

DO NOT apply to annual grass weeds after mid-tillering.

DO NOT apply at flowering stage of weeds.

DO NOT apply at flowering stage of crop.

CROP	WEEDS CONTROLLED	WEED STAGE	STATE	RATE /ha	CRITICAL COMMENTS
Chickpeas Faba Beans Field Peas Lentils Linseed Lucerne Lupins Vetches (<i>Vicia</i> spp.) White and Subterranean Clover and Medic pastures	Annual Ryegrass (<i>Lolium rigidum</i>), Barley Grass (<i>Hordeum</i> spp.), Wild Oats (<i>Avena</i> spp.)	2 leaf to early tillering Zadoks 12-23	ALL STATES	80-180g	Always apply with paraffinic oil at 1L/100L of spray solution. For aerial application, apply paraffinic oil at 1L/ha. Use the lower rates for younger weeds growing actively under ideal conditions. Use the higher rates for weeds that are: - predominantly at early tillering, or - present in dense populations, or - growing in poor growing conditions, or - where weed resistance to Group A herbicides is suspected. Due to extreme variations in cross resistance present in Annual Ryegrass populations there is no guarantee TITAN Butroxydim 250 WG Herbicide will always provide consistently high levels of control but trials have shown higher rates may be expected to perform better than lower rates.
	Annual Ryegrass (<i>Lolium rigidum</i>) together with any of the following grasses Annual Phalaris (<i>Phalaris</i> spp.), Barley Grass (<i>Hordeum</i> spp.), Brome Grass (<i>Bromus</i> spp.), Volunteer Cereals - Wheat (<i>Triticum aestivum</i>) - Barley (<i>Hordeum vulgare</i>) - Oats (<i>Avena sativa</i>) - Triticale (<i>x Triticosecale</i>) - Wild Oats (<i>Avena</i> spp.)			80-180g # plus an effective rate of a fop herbicide containing flazifop, haloxyfop, propaquizafop or quizalofop	Always apply with paraffinic oil at 1L/100L of spray solution. For aerial application, apply paraffinic oil at 1L/ha. TITAN Butroxydim 250 WG Herbicide has good activity on Barley Grass and Wild Oats but is weaker on Brome Grass and Volunteer Cereals. The addition of a partner fop herbicide (eg. TITAN Hermes 520 Herbicide) is generally recommended where any of these other weeds occur together with annual ryegrass. Use the partner at the lower end of the range recommended for the particular grass weed. Guidance can also be obtained from labelled tank mixes of the partner herbicide with other dim herbicides.
Canola (conventional, TT, "IMI" varieties)	Annual Ryegrass (<i>Lolium rigidum</i>) together with any of the following grasses Annual Phalaris (<i>Phalaris</i> spp.), Barley Grass (<i>Hordeum</i> spp.), Brome Grass (<i>Bromus</i> spp.), Volunteer Cereals - Wheat (<i>Triticum aestivum</i>) - Barley (<i>Hordeum vulgare</i>) - Oats (<i>Avena sativa</i>) - Triticale (<i>x Triticosecale</i>) - Wild Oats (<i>Avena</i> spp.)	2 leaf to early tillering Zadoks 12-23	ALL STATES	80g # plus an effective rate of a fop herbicide containing flazifop, haloxyfop, propaquizafop or quizalofop	Always apply with paraffinic oil at 1L/100L of spray solution. For aerial application, apply paraffinic oil at 1L/ha. Warning: Canola can be sensitive to TITAN Butroxydim 250 WG Herbicide. DO NOT use more than 80g/ha on Canola. To minimise risk of crop damage, do not apply to any variety before the majority of plants (80%) are at the true 4 leaf stage (4th leaf expanded, 5th leaf emerging). Apply no later than the end of leaf development (Stage 1*) and prior to the commencement of stem elongation (Stage 3*). Refer to Crop Safety section. Under certain conditions, all varieties may exhibit leaf symptoms and/or reduced early competitiveness. If this occurs, Canola yield may be reduced. Avoid spraying stressed crops as crops growing under stress will show slower recovery. Avoid spraying practices that lead to over application such as double overlap, and spraying out corners. TITAN Butroxydim 250 WG Herbicide has good activity on Barley Grass and Wild Oats but is weaker on Brome Grass and Volunteer Cereals. The addition of a partner fop herbicide (eg. TITAN Hermes 520 Herbicide) is generally recommended where any of these other weeds occur together with Annual Ryegrass. Use the partner at the lower end of the range recommended for the particular grass weed. Guidance can also be obtained from labelled tank mixes of the partner herbicide with other dim herbicides.

CROP	WEEDS CONTROLLED	WEED STAGE	STATE	RATE /ha	CRITICAL COMMENTS
Lucerne Mung Beans Navy Beans Peanuts Soybeans	Echinochloa species - Awnless Barnyard Grass (<i>E. colona</i>) - Barnyard Grass (<i>E. crus-galli</i>) - Japanese Millet (<i>E. utilis</i>)	2 leaf to early tillering Zadoks 12-23	QLD, NSW, VIC, NT only	120g or 180g	Always apply with paraffinic oil at 1L/100L of spray solution. For aerial application, apply paraffinic oil at 1L/ha. Use the lower rate for the control of seedling grasses at the pre-tillering growth stage and growing under good conditions. Use the higher rate for control of grasses at the early tillering (2 to 3 tillers) growth stage. Aerial application – see Spraying Instructions.
Cotton	Digitaria species - Crab Grass (<i>D. sanguinalis</i>) - Summer Grass (<i>D. ciliaris</i>)		QLD, NSW only		
Sunflowers	Chloris species - Feather Top Rhodes Grass (<i>C. virgata</i>) - Windmill Grass (<i>C. truncate</i>) Setaria species - Dwarf Setaria (<i>S. italica</i>) - Whorled Pigeon Grass (<i>S. verticillate</i>) Brachiaria species - Green Summer Grass (<i>B. subquadriflora</i>) - Velvet Grass (<i>B. windsorii</i>) Volunteer Crops - Maize (<i>Zea mays</i>) - Sorghum (<i>Sorghum bicolor</i>) Crowfoot Grass (<i>Eleusine indica</i> , Dinebra (<i>Dinebra reflexa</i>), Early Spring Grass (<i>Eriochloa pseudoacrotricha</i>), Johnson Grass (<i>Sorghum halepense</i>) (seedling), Liverseed Grass (<i>Urochloa panicoides</i>), Spiny Burr Grass (<i>Cenchrus incertus</i>)		QLD, NSW, VIC only		
	Eragrostis species - Elastic Grass (<i>E. tenuifolia</i>) - Mexican Love Grass (<i>E. mexicana</i>) - Stink grass (<i>E. cilianensis</i>)	2 leaf to 5 leaf but prior to tillering		120g	
	Volunteer Cereals - Wheat (<i>Triticum aestivum</i>) - Barley (<i>Hordeum vulgare</i>)	2 leaf to early tillering Zadoks 12-22, prior to stem elongation		180 g	Always apply with paraffinic oil at 1L/100L of spray solution. For aerial application, apply paraffinic oil at 1L/ha. For the control of grasses from 2 leaf to early tillering only (max. 2 tillers), prior to stem elongation or booting.
	Other Grasses Coast Button Grass (<i>Dactyloctenium aegyptium</i>), Grader Grass (<i>Themeda quadrivalvis</i>)	2 leaf to 5 leaf but prior to tillering		180g	Always apply with paraffinic oil at 1L/100L of spray solution. For aerial application, apply paraffinic oil at 1L/ha. Use for suppression only of pre-tillered grasses. DO NOT apply to tillered weeds

Refer to the label of the partner herbicide for rates and specific directions for use.

Note: Does NOT control Winter Grass (*Poa annua*), Silver Grass (*Vulpia* spp.), Nutsedge (*Cyperus* spp.) and broadleaf weeds.

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

WITHHOLDING PERIODS

WITHHOLDING PERIOD PRIOR TO HARVEST NOT REQUIRED WHEN USED AS DIRECTED.

Canola, Chickpeas, Clover, Faba Beans, Field Peas, Lentils, Linseed, Lucerne, Lupins, Medics, Mung Beans, Navy Beans, Peanuts, Soybeans, Sunflowers, Vetches: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 14 DAYS AFTER APPLICATION.

Cotton: DO NOT GRAZE OR CUT FOR STOCKFEED. DO NOT FEED COTTON TRASH TO LIVESTOCK.

GENERAL INSTRUCTIONS

Stress conditions

Moisture stress is a particular problem, whether caused by drought or short term stresses, resulting from a combination of high temperatures and low humidity or by prior use of pre-emergence herbicides resulting in stunted root growth of weeds. An irrigation or effective rainfall must occur immediately before or after spraying if these conditions exist. Other stress conditions to avoid include use of pre-emergence herbicides resulting in stunted root growth of weeds, frost, waterlogging and extended cold conditions. DO NOT spray if any stress conditions are evident just prior to application.

MIXING

Add the required amount of TITAN Butoxydim 250 WG Herbicide (see table) directly to the spray tank which should be 50% full with clean water. After the product is fully dispersed, complete filling the tank. The agitation system should be running during mixing and spraying. If agitation ceases and settling occurs, resuspend contents thoroughly before spraying. Ensure that all in-line strainer and nozzle screens in the sprayer are 100 mesh or coarser.

Add any other product next.

An oil adjuvant is essential and should be added last to the spray tank.

Paraffin oil at 1L/100L of water is the only recommended adjuvant for ground application. For aerial application, use paraffin oil at a rate of 1L/ha. Paraffin oil must be added to at least 10 times its volume of water especially where a suction (filling) probe is used. The area covered per measure pack will depend upon the application rate/ha according to the following table:

TITAN Butoxydim 250 WG Herbicide Rate/ha	Hectares covered by					
	1kg	2kg	3kg	4kg	5kg	10kg
80g	12.5	25	37.5	50	62.5	125
100g	10	20	30	40	50	100
150g	6.7	13.3	20.0	26.7	33.3	66.7
180g	5.6	11.1	16.7	22.2	27.8	55.6

APPLICATION

Time of application: TITAN Butoxydim 250 WG Herbicide is rainfast within 30 minutes. To obtain the maximum benefits of this product, weeds should be sprayed when young and actively growing. Use the lower rates for grasses with up to 4 leaves. Use the higher rates for weeds up to mid-tillering.

Method of application: Good spray coverage is essential for maximum results. Spray equipment must be checked and calibrated accurately prior to application.

Ground application: Check height of boom above the target weeds to ensure the spray is evenly distributed and a double overlap pattern is obtained. An even distribution of droplets with a MEDIUM to COARSE spray droplet size according to nozzle manufacture specifications that refer to ASAE S572 Standard or the BCPC Guideline is recommended to maximise efficacy and minimise the likelihood of spray drift.

Water volumes per hectare will depend on nozzle selection and ground speed but should be in the range of 50-100L/ha. 100° flat fan nozzles are preferred for use with this product. Use higher volumes of spray to achieve better coverage of dense, vigorous weed infestations. A minimum water volume of 80L/ha is recommended where a Coarse spray quality is being used.

Aerial application: The product may be applied through boom or Micronair units in 20-30L of water per hectare. The use of the higher volume is preferred due to more reliable results. Spray quality should be MEDIUM to COARSE (ASAE S572 standard) and swath width should not be wider than recommended for type of plane and application unit. Weed control following aerial application may not be as good as from ground application.

Sprayer cleanup or decontamination

Before spraying sensitive crops (which include Canola, Chickpeas, Faba Beans, Field Peas, Lupins, Lucerne, Clover etc.) thoroughly remove all traces of SU herbicides such as TITAN Metsulfuron 600 WG Herbicide, TITAN Chlorsulfuron 750 WG Herbicide or TITAN Triasulfuron 750 WG Herbicide or TITAN Carentrazone 400EC Herbicide from mixing and spray equipment immediately after use as recommended on the label for that herbicide.

CROP SAFETY

The progression of Canola plants beyond leaf development (Stage 1*) to Stem extension (Stage 3*) or side shoot development (Stage 2*) varies depending on the environmental conditions. Under dry, hostile conditions, Stage 1 can finish as early as the 4 leaf stage. To determine if Stage 3 has commenced, dissect young plants and expose the young growth point to determine if floral initiation or the formation of side shoots has commenced.

* Refers to BBCH growth guides from - Lancashire et al (1991). "A uniform decimal code for growth stages of crops and weeds". Ann. Appl. Biol. 119 (3): 561-601. (Note: Stage 2 is not applicable to describe the growth of many of the spring types grown in Australia)

COMPATIBILITY

Avoid the use of water containing high levels of bicarbonates. Levels greater than 50 ppm have been demonstrated to reduce the efficacy of 'Dim' herbicides such as TITAN Butoxydim 250 WG Herbicide. Where water containing bicarbonates is being used; the addition of TITAN Spray Grade Ammonium Sulphate Herbicide Adjuvant @ 2.0% v/v may assist to ameliorate this issue.

The following recommendations are based on results from field and laboratory tests with TITAN Butoxydim 250 WG Herbicide plus 0.5% TITAN Paraffinic Spraying Oil. Compatibility is defined as acceptable physical mixing, nil or generally transient crop effect and grass control within 10% of that from TITAN Butoxydim 250 WG Herbicide alone. Performance of any tank mix will be better if the maximum rate of TITAN Butoxydim 250 WG Herbicide is used and the weed growth stages are according to the label. Always refer to the label of the partner product for rates and any specific guidelines and restraints for the crop or situation.

Compatible Herbicides:

Canola: TITAN Atrazine 900 WG herbicide, TITAN Simazine 900 WG Herbicide, TITAN Clopyralid 300 Herbicide, TITAN Hermes 520 Herbicide, TITAN Clethodim 240 Herbicide (maximum rate of 375mL/ha) & herbicides containing fluzafop, propaquizafop, quizalofop.

Pasture, clover based (not Brome Grass): TITAN Flumetsulam 800 WG Herbicide, TITAN Bromoxynil 200 Selective Herbicide, TITAN LVE MCPA 570 Herbicide (max rate 0.5 L/ha; some clover vigour reduction possible), TITAN Diflufenican + MCPA Selective Herbicide, TITAN Diflufenican 25 + Bromoxynil 250 Selective Herbicide, TITAN Hermes 520 Herbicide, TITAN Clethodim 240 Herbicide, TITAN Simazine 900 WG Herbicide, herbicides containing fluzafop, propaquizafop or quizalofop.

Compatible Insecticides:

Pulses, Canola, Pasture: Astound, Imidan (phosmet), TITAN Lambda-Cyhalothrin 250CS Insecticide, Le-mat, TITAN Atlas 500 WG Aphicide, TITAN Dimethoate 400 Systemic Insecticide, insecticides containing methidathion.

Compatible Fungicides:

Pulses: TITAN Mancozeb 750 DF Fungicide, TITAN Procyimdone 500 Fungicide.

Compatible Trace Elements:

Pulses, Canola, Pasture: EDTA chelates of Cu, Mn, Zn (such as TITAN AG fertiliser range); sulphates of Cu, Mn, Zn.

TITAN Butoxydim 250 WG Herbicide is not compatible with TITAN Chlorpyrifos 500 Termiticide and Insecticide (reduced grass weed control); TITAN Diflufenican 500 Selective Herbicide or products containing metosulam (increased crop effect).

DO NOT tank mix TITAN Butoxydim 250 WG Herbicide plus TITAN Paraffinic Spraying Oil with more than one of the above products without doing a jar test beforehand. However, physical compatibility does not guarantee biological compatibility.

DO NOT tank mix with other products or trace elements without reference to a TITAN AG representative.

RESISTANT WEEDS WARNING

TITAN Butoxydim 250 WG Herbicide is a member of the Cyclohexanedione (DIM) group of herbicides. The product has the inhibitors of acetyl CoA carboxylase mode of action. For weed resistance management, the product is a Group 1 herbicide. Some naturally occurring weed biotypes resistant to the product 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 this product 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 this product to control resistant weeds.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT apply under weather conditions or from spraying equipment which may cause spray to drift onto nearby susceptible plants/crops, cropping lands or pastures. DO NOT plant cereal crops for a period of 4 weeks after application of TITAN Butoxydim 250 WG Herbicide.



PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Highly toxic to algae and aquatic plants. DO NOT contaminate dams, rivers or streams with the chemical or used containers.

STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight. Single-rinse or shake remainder into spray tank. DO NOT dispose of undiluted chemicals on-site. 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.

SAFETY DIRECTIONS

Harmful if swallowed. Will irritate the eyes and skin. Avoid contact with eyes and skin. Avoid inhaling dust. When preparing product for use wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length pvc gloves and 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 days use, wash gloves, 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 Butroxydim 250 WG 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: Harmful if swallowed. Causes skin irritation. Harmful if inhaled. May cause respiratory irritation. Suspected of damaging fertility. Suspected of damaging the unborn child. Very toxic to aquatic life with long lasting effects. Precautionary Statements: Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Wear protective gloves and protective clothing. Avoid breathing dust/fumes. Wash all exposed external body areas thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. IF exposed or concerned: Get medical advice/ attention. Collect spillage. IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider if you feel unwell. IF ON SKIN: Wash with plenty of water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Rinse mouth. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

