

Product Name: TITAN BUTROXYDIM 250 WG HERBICIDE
APVMA Approval No: 82121/120619



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| Label Name: | TITAN BUTROXYDIM 250 WG HERBICIDE |
| Signal Headings: | CAUTION KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING |
| Constituent Statements: | 250 g/kg BUTROXYDIM |
| Mode of Action: | GROUP A HERBICIDE |
| Statement of Claims: | For the control of certain grasses in a range of broadacre crops according to the Directions For Use. |
| Net Contents: | 500g-50kg |
| Restrains: | Restrains: 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. |
| Directions for Use: | This section contains file attachment. |

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| Other Limitations: | |
| Withholding Periods: | <p>WITHHOLDING PERIODS</p> <p>WITHHOLDING PERIOD PRIOR TO HARVEST NOT REQUIRED WHEN USED AS DIRECTED Canola, Chick peas, 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.</p> <p>Cotton: DO NOT GRAZE OR CUT FOR STOCKFEED. DO NOT FEED COTTON TRASH TO LIVESTOCK.</p> |
| Trade Advice: | |
| General Instructions: | This section contains file attachment. |
| Resistance Warning: | <p>Resistant Weeds Warning GROUP A HERBICIDE</p> <p>TITAN BUTROXYDIM 250 WG HERBICIDE 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 A herbicide. Some naturally occurring weed biotypes resistant to the product and other Group A herbicides may exist through normal genetic variability in any weed population.</p> <p>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 A 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.</p> |
| Precautions: | |
| Protections: | <p>PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS</p> <p>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 BUTROXYDIM 250 WG HERBICIDE.</p> <p>PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT</p> <p>Highly toxic to algae and aquatic plants. DO NOT contaminate dams, rivers or streams with the chemical or used containers</p> |
| Storage and Disposal: | <p>STORAGE AND DISPOSAL</p> <p>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,</p> |

in compliance with relevant local, state or territory government regulations. DO NOT burn empty containers or product.

Safety Directions:

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 Instructions:

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131 126, New Zealand 0800 764 766.

First Aid Warnings:

DIRECTIONS FOR USE

| 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>) | | | 80 - 180g # plus an effective rate of a fop herbicide containing fluazifop, 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. |

| CROP | WEEDS CONTROLLED | WEED STAGE | STATE | RATE /ha | CRITICAL COMMENTS |
|---|--|---|------------|--|--|
| | - Barley (<i>Hordeum vulgare</i>) - Oats (<i>Avena sativa</i>) - Triticale (x <i>Triticosecale</i>) Wild oats (<i>Avena</i> spp.) | | | | |
| 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 (x <i>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 fluazifop, haloxyfop, propaquizafop or quizalofop | <p>Always apply with paraffinic oil at 1L/100L of spray solution. For aerial application, apply paraffinic oil at 1L/ha.</p> <p>Warning Canola can be sensitive to TITAN BUTROXYDIM 250 WG HERBICIDE. DO NOT use more than 80g/ha on canola.</p> <p>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.</p> <p>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.</p> <p>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.</p> |

| 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>) | 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 | - Japanese millet (<i>E. utilis</i>) 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. subquadripara</i>) - Velvet grass (<i>B. windersii</i>) Volunteer Crops - Maize (<i>Zea mays</i>) - Sorghum (<i>Sorghum bicolor</i>) Crowsfoot grass (<i>Eleusine indica</i>) Dinebra (<i>Dinebra reflexa</i>) Early spring grass (<i>Eriochloa pseudoacrotricha</i>) Johnson grass (<i>Sorghum halepense</i>) | | Qld, NSW & Vic only | | |

| CROP | WEEDS CONTROLLED | WEED STAGE | STATE | RATE /ha | CRITICAL COMMENTS |
|------|--|---|-------|----------|--|
| | (seedling) Liverseed grass (<i>Urochloa panicoides</i>) Spiny burr grass (<i>Cenchrus incertus</i>) | | | | |
| | 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 | Always apply with paraffinic oil at 1L/100L of spray solution. For aerial application, apply paraffinic oil at 1L/ha. For the control of pre-tillering grasses only. Do not apply to tillered grasses |
| | 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

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 BUTROXYDIM 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 BUTROXYDIM 250 WG HERBICIDE Rate/ha | Hectares covered by | | | | | |
|---|---------------------|------|------|------|------|-------|
| | 1 kg | 2 kg | 3 kg | 4 kg | 5 kg | 10 kg |
| 80 g | 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 BUTROXYDIM 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 BUTROXYDIM 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 BUTROXYDIM 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 BUTROXYDIM 250 WG HERBICIDE alone. Performance of any tank mix will be better if the maximum rate of TITAN BUTROXYDIM 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 fluazifop, 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 fluazifop, propaquizafop or quizalofop

Compatible Insecticides:

Pulses, canola, pasture: Astound, Imidan (phosmet), TITAN LAMBDA-CYHALOTHRIN 250 CS 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 PROCYMIDONE 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 BUTROXYDIM 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 BUTROXYDIM 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.