

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

TITAN

ISOXAFLUTOLE 750 WG

HERBICIDE

ACTIVE CONSTITUENT: 750g/kg ISOXAFLUTOLE

GROUP **27** HERBICIDE

For the control and suppression of various broadleaf weeds and grasses in Sugarcane, Chickpeas and fallow as specified in the Directions for Use table.

APVMA Approval No.: 69203/119028

Pack Size: 500g-10kg



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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

Restraints:

All crops: DO NOT apply by aircraft.

Sugarcane: DO NOT apply with wetting agents, crop oils or other adjuvants.

DO NOT apply to poorly drained soils, e.g. soils prone to waterlogging, sodic soils or soils affected by physical compaction.

DO NOT apply to crops with poor root development or to crops under stress from waterlogging, drought, nutrient deficiency or disease.

DO NOT apply at any rate to soils of cation exchange capacity (CEC) less than 3 meq/100g or with clay content less than 10%, or with organic carbon content of less than 0.8%. These values should be obtained from soil analysis prior to using TITAN Isoxaflutole 750 WG Herbicide.

DO NOT apply at rates of 125g/ha or higher to soils with organic carbon content of less than 1.0%, unless the cation exchange capacity (CEC) is above 9.5 meq/100g. These values should be determined through soil analysis prior to using TITAN Isoxaflutole 750 WG Herbicide.

DO NOT apply at rates of 125g/ha or higher to soils of cation exchange capacity (CEC) less than 4.5 meq/100g.

CROP	WEEDS CONTROLLED	STATE	RATE	CRITICAL COMMENTS
Sugarcane	Pre-weed emergence: Barnyard Grass, Billygoat Weed (Blue Top), Blackberry Nightshade, Crowsfoot Grass, Green Summer Grass, Guinea Grass, Sowthistle, Summer Grass, Thick Head, Turnip Weed	QLD, NSW, WA only	<u>Light soils</u> 100-125g/ha <u>Medium soils</u> 100-150g/ha <u>Heavy soils</u> 100-200g/ha See GENERAL INSTRUCTIONS for soil guidelines. Use higher rates for longer residual effect.	PLANT CANE BROADCAST OR BANDED SPRAY APPLICATIONS (From planting up to 3-4 leaf crop stage only) May be applied as a broadcast or band spray 'over the top' of plant cane from planting up to the 3 to 4 leaf crop stage. ADD paraquat at label rates where green cane leaf has emerged at application, even if no weeds have emerged. DO NOT apply to shallow planted cane unless there is sufficient soil cover above the sett. A minimum of 60mm soil cover is required above the sett even in heavy soils. In most cases it is preferable to have 75-100mm soil cover at least. More soil cover is recommended where soils have a high infiltration rate. In conventionally planted (furrow planting) sugarcane, DO NOT apply to unconsolidated soil in the cutaway situation, where rainfall or irrigation may cause soil movement into the planting drill. If planting into pre-formed mounds using double-disc opener planters or similar equipment, ensure that planting slits in soil are closed completely so that there is adequate soil cover over the sett. PLANT CANE and RATOON CANE DIRECTED SPRAY APPLICATIONS PRIOR TO CANOPY CLOSURE Apply as a directed inter-row spray (e.g. Irvin leg) to the soil surface. Best results are obtained after all tillage operations are completed and the row mound surface has consolidated to minimise soil and herbicide movement. The inter-row surface should not be disturbed after application. Direct the spray to minimise contact with Sugarcane foliage. DO NOT apply to Sugarcane less than 0.75m in height. If weeds have emerged at application, add a knockdown herbicide at the appropriate label rate to provide improved weed knockdown. RATOON CANE BROADCAST OR BANDED SPRAY APPLICATIONS (After harvest up to two-leaf crop stage) May be applied "over the top" of ratoon cane as a broadcast or band spray up to the two-leaf crop stage. TITAN Isoxaflutole 750 WG Herbicide can be applied to burnt or green trash blanketed ratoon cane. If a non-UV stable pre-emergence herbicide is included for extended weed spectrum, heavy trash blanket layers should be removed prior to application to ensure herbicide contact with the soil surface. Avoid soil disturbance, e.g. stool splitting, after application. If weeds have emerged at application or if green leaf tissue is unfurling from ratoon shoots, add paraquat at the appropriate label rate to burn down existing weed growth and minimise uptake by crop. Other pre-emergence herbicides may be necessary for extended weed spectrum. For best results, consider label requirements for those products regarding soil moisture at application as well as incorporation guidelines.
Fallow prior to planting of crops as directed under the crop rotation recommendation section	<u>Weeds controlled</u> Fleabane (<i>Conyza bonariensis</i>), Sowthistle (<i>Sonchus oleraceus</i>), Feathertop Rhodes Grass (<i>Chloris virgata</i>) <u>Weeds suppressed</u> Barnyard Grass (<i>Echinochloa colona</i>)	ALL STATES	100g/ha	TITAN Isoxaflutole 750 WG Herbicide may be applied following crop harvest but not less than the period specified under Crop rotation recommendations. Minimum recropping intervals apply for all crops following TITAN Isoxaflutole 750 WG Herbicide application. Best results are obtained where a complete and even application of TITAN Isoxaflutole 750 WG Herbicide is applied to weed-free soil prior to weed germination, and sufficient rainfall occurs after application and prior to weed emergence allow herbicide uptake by germinating weeds. Use a nozzle configuration to achieve a medium to coarse spray pattern. A minimum spray volume of 50L/ha is recommended. Cultivation following application may reduce pre-emergence weed control provided by TITAN Isoxaflutole 750 WG Herbicide. TITAN Isoxaflutole 750 WG Herbicide will not control emerged weeds when applied alone. Emerged weeds must be controlled by application of a knockdown herbicide. Refer to the compatible products listed below for an appropriate knockdown herbicide to apply with TITAN Isoxaflutole 750 WG Herbicide in this situation. Weed control may be reduced by prolonged wet soil conditions following application. Weed escapes may require follow up application of knockdown herbicides.

CROP	WEEDS CONTROLLED	STATE	RATE	CRITICAL COMMENTS
Chickpeas	<u>Weeds controlled</u> Capeweed, Crassula, Indian Hedge Mustard, Medic, Prickly Lettuce, Sowthistle, Turnip Weed, Wild Radish <u>Weeds Suppressed</u> Deadnettle, Slender Celery	QLD, NSW, ACT, VIC, SA, WA only	100g/ha	Pre-weed emergence: Application can be made to dry or damp soil. Application should be made as soon as possible after planting prior to emergence of the crop. If applied during the planting operation ensure TITAN Isoxaflutole 750 WG Herbicide is applied after furrow closure. Failure to thoroughly close and firm the seed furrow may allow herbicide to directly contact the seed which may cause crop injury. If sowing with knife points or disc openers, ensure that herbicide cannot be concentrated in the sowing furrow by soil wash. Either close the furrow with harrows, or stabilise the furrow with press wheels. Mechanical incorporation is not recommended. Use a nozzle configuration to achieve a medium to coarse spray pattern. A minimum spray volume of 50L/ha is recommended. Application of TITAN Isoxaflutole 750 WG Herbicide post-sowing pre-emergent to chickpeas planted in sandy or gravelly soils, or soils low in clay or organic matter may result in crop damage. Heavy rains after the application of TITAN Isoxaflutole 750 WG Herbicide may cause crop damage, particularly in sandy or gravelly soils. TITAN Isoxaflutole 750 WG Herbicide is not recommended for use on Yorker chickpeas. See "Crop Safety" in the GENERAL INSTRUCTIONS section below.
	<u>Weeds controlled</u> Capeweed, Crassula, Deadnettle, Indian Hedge Mustard, Medic, Prickly Lettuce, Silvergrass, Slender Celery, Sowthistle, Spear Thistle, Turnip Weed, Wild Radish <u>Weeds Suppressed</u> Saffron Thistle, Spiny Emex, Wireweed	QLD, NSW, ACT, VIC, SA, WA only	100g/ha + 1.5L/ha simazine (500g/L SC)	The Critical Comments for the use of TITAN Isoxaflutole 750 WG Herbicide alone in chickpeas (above) also apply to this section. Application of TITAN Isoxaflutole 750 WG Herbicide + simazine in sandy or gravelly soils may result in severe crop damage.

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

WITHHOLDING PERIODS

Sugarcane

Harvest: DO NOT HARVEST FOR 19 WEEKS AFTER APPLICATION.

Grazing: DO NOT GRAZE ANIMALS ON TREATED CROPS.

Chickpeas

Harvest: NOT REQUIRED WHEN USED AS DIRECTED.

Grazing: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 6 WEEKS AFTER APPLICATION.

Summer fallow

Harvest: Crops planted after summer fallow: NOT REQUIRED WHEN USED AS DIRECTED.

Grazing: DO NOT GRAZE TREATED WEEDS AND STUBBLE IN A SUMMER FALLOW SITUATION.

DO NOT GRAZE OR CUT FOR STOCKFOOD A CROP SOWN FOLLOWING A FALLOW SPRAY FOR 6 WEEKS AFTER SOWING.

GENERAL INSTRUCTIONS

CROP SAFETY

Chickpeas: Application of TITAN Isoxaflutole 750 WG Herbicide PSPE to Chickpeas planted in sandy or gravelly soils, or soils low in clay or organic matter may result in crop damage. Heavy rains after the application of TITAN Isoxaflutole 750 WG Herbicide may cause crop damage, particularly in sandy or gravelly soils. Application of TITAN Isoxaflutole 750 WG Herbicide + simazine in sandy or gravelly soils may result in severe crop damage.

Varietal tolerance: TITAN Isoxaflutole 750 WG Herbicide is not recommended for use with the Chickpea variety Yorker. Application of TITAN Isoxaflutole 750 WG Herbicide post-sowing pre-emergence to crops of Yorker variety Chickpeas can result in unacceptable crop damage and may result in yield loss.

Crop rotation recommendations: TITAN Isoxaflutole 750 WG Herbicide may be applied to chickpea crops where the following crop will be Chickpeas, or where the land will be left fallow. The following recropping instructions apply to following crops other than Chickpeas.

- Prolonged dry periods or cold conditions may result in extended re-cropping intervals, even if rainfall exceeds the required amount (listed in the table below). If in doubt, contact your local TITAN AG representative.
- Heavy rainfall after an extended dry period may result in the reactivation of TITAN Isoxaflutole 750 WG Herbicide. This can lead to transient bleaching or crop stunting.
- Use on soils with a pH less than 7.0 has not been extensively tested, and may result in extended recropping intervals.
- Cultivation is recommended prior to recropping.
- Minimum recropping intervals apply for all crops following TITAN Isoxaflutole 750 WG Herbicide application. For advice on recropping intervals contact TITAN AG Pty Ltd.

CROP	MINIMUM RECROPPING INTERVAL	MINIMUM RAINFALL REQUIREMENT*
Wheat	10 weeks**	100mm
Barley	10 weeks**	100mm
Oats	10 weeks**	100mm
Canola	9 months	350mm
Faba Beans	9 months	250mm
Field Peas	9 months	250mm
Vetch	9 months	250mm
Lentils	21 months	500mm
Clover	21 months	500mm
Lucerne	9 months	350mm
Medic	21 months	500mm
Maize	10 weeks**	100mm
Mung Beans	7 months	250mm
Sorghum	7 months	250mm
Soybeans	7 months	250mm
Sunflowers	7 months	250mm
Cotton	7 months	350mm*

* Minimum rainfall total from TITAN Isoxaflutole 750 WG Herbicide use until planting of the subsequent crop. **DO NOT include flood or furrow irrigation in the minimum rainfall requirement.**

** If TITAN Isoxaflutole 750 WG Herbicide has been tank-mixed with simazine, observe the recropping interval for simazine for Wheat, Barley, Oats and Maize.

Sugarcane: There are 6 general guidelines for maintaining crop safety when using TITAN Isoxaflutole 750 WG Herbicide in Sugarcane.

GENERAL GUIDELINES

1. In plant cane, do not apply to shallow planted cane unless there is sufficient soil cover over the sett (Minimum of 60mm but preferably at least 75-100mm). See Critical Comments.
2. Add paraquat to TITAN Isoxaflutole 750 WG Herbicide to minimise foliar uptake when applying as a broadcast spray to plant cane, and in very young ratoons if green cane shoots are likely to be intercepted by sprays.
3. DO NOT apply with wetting agents, crop oils or other adjuvants.
4. DO NOT apply to areas which have poor drainage or poor root development in the crop.
5. The use of TITAN Isoxaflutole 750 WG Herbicide on newly limed soil could cause severe crop damage, please contact your local TITAN AG representative for advice prior to use of TITAN Isoxaflutole 750 WG Herbicide in this situation.
6. Adhere to the general rate guidelines regarding light, medium and heavy soils.

CATEGORY	Common soil description	Clay content %	Suitable TITAN Isoxaflutole 750 WG Herbicide rates
Light soils	e.g. sands, loamy sand, light sandy loam, light silty loams	less than 15%	100-125g/ha
Medium soils	e.g. sandy loam, silty loam, sandy clay loam, loam	15-33%	100-150g/ha
Heavy soils	e.g. heavy loams, clay loams, clays, dark earths	Greater than 33%	100-200g/ha

TITAN Isoxaflutole 750 WG Herbicide is adsorbed to organic matter and clay particles in the soil. Soils with low organic carbon (OC) and cation exchange capacity (C.E.C.) have a reduced capacity to adsorb the herbicide in the soil, which may result in the herbicide leaching past the weed root zone into the cane root zone. Crop root uptake of TITAN Isoxaflutole 750 WG Herbicide may result in phytotoxicity, which is evident as bleaching of leaves. To minimise the risk of crop root uptake, TITAN Isoxaflutole 750 WG Herbicide is not recommended for use on some soils. Carefully check the specific guidelines and constraints with respect to cation exchange capacity, organic carbon content and clay content. These values should be determined through soil analysis prior to using TITAN Isoxaflutole 750 WG Herbicide. Refer to your local reseller or TITAN AG representative to assist you with interpretation of your soil analysis results.

The use of TITAN Isoxaflutole 750 WG Herbicide on newly limed soil could cause severe crop damage, please contact your local TITAN AG representative for advice prior to use of TITAN Isoxaflutole 750 WG Herbicide in this situation. TITAN Isoxaflutole 750 WG Herbicide has been field tested on most important commercial varieties of sugarcane without any evidence of major varietal tolerance variation. If you are contemplating the use of TITAN Isoxaflutole 750 WG Herbicide on experimental or minor varieties of sugarcane, small test areas should be treated to establish suitable tolerance before treating large areas. For further information on varietal tolerance please contact your TITAN AG representative.

MIXING

Partly fill the spray tank with water. Start agitation. Add the correct amount of TITAN Isoxaflutole 750 WG Herbicide to the spray tank with the agitation system running. When tank-mixing with paraquat, ensure that TITAN Isoxaflutole 750 WG Herbicide is added to the spray mixture first, followed by paraquat to ensure thorough mixing. When tank-mixing with glyphosate, ensure that TITAN Isoxaflutole 750 WG Herbicide is added to the spray mixture first, followed by glyphosate to ensure thorough mixing. Continue agitation while topping up the tank with water and while spraying. In all cases, use prepared spray mixture on day of preparation.

DO NOT allow spray mixture to stand overnight.

In the case of tank mixtures with glyphosate, water should be clean and free of clay, silt and algae. Provided it meets these requirements then water collected from roofs, bore water, dam water and water from creeks may be used.

APPLICATION

TITAN Isoxaflutole 750 WG Herbicide can be applied to hot and dry soils, without the risk of breakdown by sunlight. This ultraviolet stability removes the need for immediate soil incorporation of the product. TITAN Isoxaflutole 750 WG Herbicide is activated by rainfall or irrigation, which is required to carry the herbicide into the root zone of the germinating weeds. Deep germinating weeds (eg. wild radish) may not be adequately controlled in years where rainfall is low (<15mm).

Weed escapes may occur after spraying TITAN Isoxaflutole 750 WG Herbicide if weed germination occurs before the chemical is activated OR carried to the depth of the weed root zone. Under prolonged dry conditions a greater quantity of rainfall or irrigation may be required for effective activation of the product. Under these conditions, shoots of germinating weeds may intercept the TITAN Isoxaflutole 750 WG Herbicide band and appear affected, but may not be controlled. Weeds that do not turn completely white within days of emergence must be sprayed with an appropriate knockdown herbicide. To avoid weed escapes, it is recommended to allow weeds to germinate, and then apply TITAN Isoxaflutole 750 WG Herbicide in tank mixture with paraquat at an appropriate label rate to provide additional weed knockdown.

Soil movement from irrigation or cultivation may result in poor weed control from TITAN Isoxaflutole 750 WG Herbicide. DO NOT incorporate TITAN Isoxaflutole 750 WG Herbicide by flood irrigation or with high-pressure water



cannons if excessive soil movement is expected, particularly if the soil is in a loose, dry condition. Best results are achieved where rainfall or low pressure overhead irrigation carries the herbicide downward in an even band to the depth of the weed root zone.

Sugarcane: Apply in a minimum spray volume of 250L/ha. For best results flat fan nozzles are recommended. Select the lowest pressure (within the recommended nozzle operating range), to reduce drift. Use a nozzle size that delivers a medium to coarse droplet at the selected operating pressure.

SPRAY EQUIPMENT CLEAN-UP

After using TITAN Isoxaflutole 750 WG Herbicide, empty the tank completely and drain the whole system. Without entering it, thoroughly wash inside the tank using a pressure hose. Alternatively, if the tank is fitted with in-tank rinse nozzles, activate these nozzles to thoroughly rinse the inside of the tank. Drain the tank and clean any tank, pump, line and nozzle filters. Before disassembling nozzles, filters and other parts for cleaning, thoroughly wash down the exterior of the spray equipment with a pressure hose.

To rinse: After cleaning the tank as above, quarter fill the tank with clean water and circulate through the pump, lines, hoses and nozzles. Drain and repeat the rinsing procedure twice.

To decontaminate: Before spraying sensitive crops (e.g. Canola, Pulses (except Chickpeas), forage legumes and forage brassicas), wash the tank and rinse the system as above. Quarter fill the tank and add a liquid alkali detergent at 500mL/100L of water or a chlorine bleach (4% chlorine) at 300mL/100L of water and circulate throughout the system for at least fifteen minutes. Drain the whole system. Nozzles, screens, relief valves, dump lines, caps and taps at the end of spray lines, tank lids, flow meters, lines to pressure gauges, external tank indicators, induction hoppers and transfer systems should be removed/pulled apart and cleaned separately. Pay special attention to by-pass lines from pressure relief or dump valves to the main tank. To remove chlorine bleach flush the system with clean water and allow to drain. Finally, flush the system with clean water and allow to drain.

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

RESISTANT WEEDS WARNING

TITAN Isoxaflutole 750 WG Herbicide is a member of the isoxazole group of herbicides. TITAN

GROUP 27 HERBICIDE

Isoxaflutole 750 WG Herbicide is a herbicide which inhibits 4-hydroxyphenyl-pyruvate dioxygenase (4-HPPD). For weed resistance management TITAN Isoxaflutole 750 WG Herbicide is a Group 27 herbicide. Some naturally-occurring weed biotypes resistant to TITAN Isoxaflutole 750 WG Herbicide and other Group 27 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 Isoxaflutole 750 WG Herbicide or other Group 27 herbicides.

Since occurrence of resistant weeds is difficult to detect prior to use, TITAN AG Pty Ltd accepts no liability for any losses that may result from the failure of TITAN Isoxaflutole 750 WG Herbicide to control resistant weeds.

COMPATIBILITY

Sugarcane: TITAN Isoxaflutole 750 WG Herbicide may be tank-mixed with paraquat formulations at the appropriate label rates for each product. TITAN Isoxaflutole 750 WG Herbicide is also compatible with atrazine (900g/kg) and Actril* DS (apply no more than 500mL/ha in combination with TITAN Isoxaflutole 750 WG Herbicide).

Tank Mixtures: Read and follow all label directions including restraints, spray drift restraints, mandatory no-spray zones, critical comments, withholding periods, regional use restrictions and safety directions for the tank mix products.

Chickpeas: TITAN Isoxaflutole 750 WG Herbicide should not be tank-mixed with trifluralin.

PRECAUTIONS

Re-entry period: DO NOT allow entry into treated areas for 12 hours after treatment. When prior entry is necessary, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's use.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

DO NOT contaminate streams, rivers or waterways with this product or the used containers, as this product may cause injury to non-target plants and vegetation, particularly aquatic plants and algae.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT apply under weather conditions, or from spraying equipment, which could be expected to cause spray to drift onto nearby susceptible plants/crops, cropping lands or pastures.

STORAGE AND DISPOSAL

Store in the closed, original container in a dry, cool, well-ventilated area out of 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 for appropriate disposal 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. DO NOT re-use container for any other purpose.

SAFETY DIRECTIONS

Will irritate the eyes and skin. Avoid contact with eyes and skin. If product in eyes, wash it out immediately with water. When opening the container and preparing spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), a washable hat, elbow length chemical resistant gloves and face shield or goggles. When using the prepared spray wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat and elbow length chemical resistant gloves. 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 Isoxaflutole 750 WG Herbicide is available from TITAN AG Pty Ltd on request. Call Customer Service on (02) 9999 6655 or visit www.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: Suspected of damaging fertility or the unborn child. Very toxic to aquatic life with long lasting effects. Precautionary Statements: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. IF exposed or concerned: Get medical advice/attention. Collect spillage. Store locked up. Dispose of contents/container in accordance with local/regional/national regulations.

