



Australian Pesticides &
Veterinary Medicines Authority

Product Name: TALINOR Herbicide
APVMA Approval No: 82256/147917

Label Name:	TALINOR Herbicide
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Signal Headings:	DANGEROUS POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
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Constituent Statements:	ACTIVE CONSTITUENTS: 175 g/L BROMOXYNIL PRESENT AS THE OCTANOATE 37.5 g/L BICYCLOPYRONE 9.4 g/L CLOQUINTOCET-MEXYL SOLVENT: 338 g/L HYDROCARBONS, LIQUID
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Mode of Action:	GROUP 6 27 HERBICIDE
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Statement of Claims:	For the post-emergent control of a range of broadleaf weeds in Wheat and Barley
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Net Contents:	5 - 1000 L
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Restraints:	Refer to attachment.
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Directions for Use:	Refer to attachment.
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Other Limitations:	
Withholding Periods:	<p>WITHHOLDING PERIODS</p> <p>Harvest: NOT REQUIRED WHEN USED AS DIRECTED</p> <p>Grazing: DO NOT GRAZE OR CUT FOR STOCK FEED FOR 8 WEEKS AFTER APPLICATION</p>
Trade Advice:	<p>EXPORT OF TREATED PRODUCE: Growers should note that maximum residue limits (MRLs) or import tolerances may not exist in all markets for wheat and barley treated with bicyclopyrone. If you are growing wheat and barley for export, please check with Syngenta and/or your industry body for the latest information on MRLs and import tolerances before using TALINOR.</p>
General Instructions:	Refer to attachment.
Resistance Warning:	<p>Resistant Weeds Warning - Group 6 and 27 Herbicide</p> <p>TALINOR Herbicide contains members of the triketone (bicyclopyrone) and nitrile (bromoxynil) groups of herbicides. TALINOR works by inhibiting 4-hydroxyphenylpyruvate dioxygenase (4-HPPD) and inhibiting photosynthesis at photosystem II in treated plants. For weed resistance management, this product is a Group 27 and Group 6 herbicide. Some naturally occurring weed biotypes resistant to this product and other Group 27 or Group 6 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 27 or Group 6 herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, Syngenta Australia Pty Ltd accepts no liability for any losses that may result from the failure of this product to control resistant weeds. Advice as to strategies and alternative treatments that can be used should be obtained from your local supplier, consultant, local Department of Agriculture, Primary Industries Department or a Syngenta representative.</p> <p>Resistance Management</p> <p>Management of weed resistance to the Group 27 herbicides is important to maintain this critical Mode of Action (MoA) group, particularly for the management of multiple MoA resistant populations of Wild Radish. When using TALINOR, where practical, and particularly when targeting weed populations with developing resistance, the addition of another herbicide with a different MoA to TALINOR (Group 27 and 6) should be considered. Refer to your local Syngenta representative for the most up to date information relating to management of Group 27 herbicide resistance, or refer to the CropLife Australia Group 27 guidelines (www.croplife.com.au).</p> <p>DO NOT make more than one Group 27 based herbicide application per crop.</p> <p>Management of weeds, particularly those suspected of already having developed herbicide resistance, with TALINOR should be a part of an Integrated Weed Management strategy designed around maximising control of weeds at all stages of their life cycle. The use of a diversity of herbicide Modes of Action, including TALINOR, should be considered to be one part of such a strategy. Additional, non-herbicidal, control practices should also be employed taking into account agronomic, mechanical and cultural techniques. Refer to your local Syngenta representative for the most up to date information relating to Resistance Management or alternatively to the information available through the WeedSmart program.</p>

Precautions:	<p>Re-entry Period: DO NOT enter treated areas until the spray has dried unless wearing cotton overalls, over normal clothing, buttoned to the neck and wrist and elbow-length chemical resistant gloves. Clothing must be laundered after each day's use.</p>
Protections:	<p>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.</p> <p>PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT. Highly toxic to aquatic life. DO NOT contaminate streams, rivers or waterways with the chemical or used containers.</p>
Storage and Disposal:	<p>This product must be stored in a locked room or place away from children, animals, food, feedstuffs, seed and fertilisers. Store in the closed, original container in a cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight.</p> <p>Refillable containers Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.</p> <p>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 500 mm 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.</p> <p>drumMUSTER containers This container can be recycled if it is clean, dry, free of visible residues and has the drumMUSTER logo visible. Triple-rinse container for disposal. Dispose of rinsate by adding it to the spray tank. Do not dispose of undiluted chemical on site. Wash outside of the container and the cap. Store cleaned container in a sheltered place with cap removed. It will then be acceptable for recycling at any drumMUSTER collection or similar container management program site. The cap should not be replaced but may be taken separately.</p>
Safety Directions:	<p>Harmful if swallowed. May irritate the eyes and skin. Repeated exposure may cause allergic disorders. Avoid contact with eyes and skin. When opening the container and preparing spray wear:</p> <ul style="list-style-type: none"> • cotton overalls, over normal clothing, buttoned to the neck and wrist and • elbow-length chemical resistant gloves. <p>In addition, if applying by boomspray equipment with open cab, wear:</p> <ul style="list-style-type: none"> • cotton overalls, over normal clothing, buttoned to the neck and wrist and • elbow-length chemical resistant gloves. <p>Wash hands after use. After each day's use, wash gloves and contaminated clothing.</p>
First Aid Instructions:	<p>If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131 126. If swallowed, DO NOT induce vomiting.</p>
First Aid Warnings:	

Restraints

DO NOT apply using a misting applicator

DO NOT apply by air

DO NOT apply if rainfall is expected within 2 hours of application

DO NOT apply to weeds under stress from factors including very dry, waterlogged, cold or frosty conditions or nutrient deficiency

DO NOT apply with liquid urea ammonium nitrate (UAN) fertilisers

DO NOT apply with ammonium sulphate fertilisers

DO NOT apply more than 1 application per season

DO NOT apply after Cereal Growth Stage GS32

Spray Drift Restraints

Specific definitions for terms used in this section of the label can be found at www.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. The buffer zones in the relevant buffer zone table/s below provide guidance but may not be sufficient in all situations. 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 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.

DO NOT apply by a boom sprayer unless the following requirements are met:

- spray droplets not smaller than a MEDIUM spray droplet size category
- minimum distances between the application site and downwind sensitive areas (see 'Mandatory downwind buffer zones' section of the following table titled 'Buffer zones for boom sprayers') are observed

Buffer zones for boom sprayers

Application Rate	Mandatory Downwind Buffer Zones	
	Natural Aquatic Areas	Vegetation Areas
Up to 1200 mL/ha	25 metres	20 metres

DIRECTIONS FOR USE

Crop	Weeds	Target Size	Product Rate (mL/ha)	Critical Comments
Wheat, Barley (GS12 to 32)	Wild Radish (<i>Raphanus raphanistrum</i>)	Up to 4 leaf	500 to 750 plus Hasten Spray Adjuvant at 1000 mL per 100 L water	Use the higher rate where the density of the target weed is high and/or the weeds are at more advanced growth stages. The higher rate should also be used when environmental conditions are marginal.
		Up to 6 leaf	750 to 1200 plus Hasten at 1000 mL per 100 L water	
	Ball Mustard (<i>Neslia paniculata</i>), Charlock (<i>Sinapis arvensis</i>), Hedge Mustard (<i>Sisymbrium officinale</i>), Indian Hedge Mustard (<i>Sisymbrium orientale</i>), Turnip Weed (<i>Rapistrum rugosum</i>) Volunteer Canola (<i>Brassica napus</i>),	Up to 4 leaf	500 to 750 plus Hasten at 1000 mL per 100 L water	
		Up to 8 leaf	750 to 1000 plus Hasten at 1000 mL per 100 L water	
	Prickly Lettuce (<i>Lactuca serriola</i>)	Up to 5 leaf	500 to 750 plus Hasten at 1000 mL per 100 L water	
	Bastard's Fumitory (<i>Fumaria bastardii</i>), Common Fumitory (<i>Fumaria officinalis</i>), Dense-flower Fumitory (<i>Fumaria densiflora</i>), Small-flowered Fumitory (<i>Fumaria parviflora</i>), Wall Fumitory (<i>Fumaria muralis</i>), Patterson's Curse (<i>Echium plantagineum</i>), Sub Clover (<i>Trifolium subterraneum</i>), White Iron Weed (<i>Buglossoides arvensis</i>)	Up to 6 leaf	500 to 750 plus Hasten at 1000 mL per 100 L water	
	Bifora (<i>Bifora testiculata</i>), Burr Medic (<i>Medicago polymorpha</i>), seedling Lucerne (<i>Medicago sativa</i>), Snail Medic (<i>Medicago scutellate</i>), Chickpeas (<i>Cier arietinum</i>), Faba Beans (<i>Vicia faba</i>), Field Peas (<i>Pisum sativum</i>), Lupins (<i>Lupinus angustifolius</i>), Spurred Vetch (<i>Vicia monantha</i>), Vetch (<i>Vicia sativa</i>), Deadnettle (<i>Lamium amplexicaule</i>) Sowthistle (<i>Sonchus oleraceus</i>)	Up to 8 leaf	500 to 750 plus Hasten at 1000 mL per 100 L water	

Crop	Weeds	Target Size	Product Rate (mL/ha)	Critical Comments
Wheat, Barley (GS12 to 32)	Lentils (<i>Lens culinaris</i>)	Up to 5 leaf	500 plus Hasten at 1000 mL per 100 L water (suppression)	Under higher target densities or at larger growth stages, the lower rate will substantially reduce the biomass of lentils but may not achieve commercially acceptable levels of control.
			750 plus Hasten at 1000 mL per 100 L water	
	Capeweed (<i>Arctotheca calendula</i>)	Up to 6 leaf	500 to 750 plus Hasten at 1000 mL per 100 L water	Use the higher rate where the density of the target weed is high and/or the weeds are at more advanced growth stages. The higher rate should also be used when environmental conditions are marginal.
		Up to 8 leaf	750 to 1000 plus Hasten at 1000 mL per 100 L water	
	Saffron Thistle (<i>Carthamus lanatus</i>)	Up to 6 leaf	750 to 1000 plus Hasten at 1000 mL per 100 L water	
	Broadleaf Erodium (<i>Erodium botrys</i>) Common Storksbill (<i>Erodium cicutarium</i>)	Up to 4 leaf	750 to 1000 plus Hasten at 1000 mL per 100 L water	Use the higher rate where the density of the target weed is high and/or the weeds are at more advanced growth stages. The higher rate should also be used when environmental conditions are marginal. Shading as a result of high densities of Erodium may mean that regrowth occurs from plants that were only partially treated.
	Bindweed (<i>Fallopia convolvulus</i>) Wireweed (<i>Polygonum aviculare</i>)	Up to 3 leaf	500 plus Hasten at 1000 mL per 100 L water	Use the higher rate where the density of the target weed is high and/or the weeds are at more advanced growth stages. The higher rate should also be used when environmental conditions are marginal. Under low soil moisture conditions, control of Bindweed can be severely reduced.
		Up to 6 leaf	750 to 1000 plus Hasten at 1000 mL per 100 L water	
	Shepherd's Purse (<i>Capsella bursa-pastoris</i>)	Up to 4 leaf	500 plus Hasten at 1000 mL per 100 L water	Use the higher rate where the density of the target weed is high and/or the weeds are at more advanced growth stages. The higher rate should also be used when environmental conditions are marginal.
		Up to 8 leaf	750 plus Hasten at 1000 mL per 100 L water	

Crop	Weeds	Target Size	Product Rate (mL/ha)	Critical Comments
Wheat, Barley (GS12 to 32)	Spiny Emex/Double Gee (<i>Emex australis</i>)	Up to 2 leaf	500 plus Hasten at 1000 mL per 100 L water	Use the higher rate where the density of the target weed is high and/or the weeds are at more advanced growth stages. The higher rate should also be used when environmental conditions are marginal.
		Up to 4 leaf	750 to 1000 plus Hasten at 1000 mL per 100 L water	
	Chickweed (<i>Stellaria media</i>)	Up to 4 leaf	750 plus Hasten at 1000 mL per 100 L water	Use the higher rate where the density of the target weed is high and/or the weeds are at more advanced growth stages. The higher rate should also be used when environmental conditions are marginal. Control may be reduced where coverage of target weeds is compromised. Partially affected Chickweed may recover if coverage is inadequate.
	Control of Matricaria / Globe Chamomile (<i>Oncosiphon piluliferum</i>)	Up to 5 leaf	500 to 750 plus Hasten at 1000 mL per 100 L water	Use the higher rate where target weed density is high, at more advanced growth stages, coverage is compromised or environmental conditions are marginal.
	Suppression of Fleabane (<i>Conyza bonariensis</i>)	Up to 4 leaf	750 to 1000 plus Hasten at 1000 mL per 100 L water	Plant numbers will be reduced but some recovery may occur in larger plants under marginal soil moisture conditions. Efficacy will be maximised when Autumn germinating Fleabane are targeted and excellent coverage of the weed is achieved.
	Suppression of Bedstraw (<i>Gallium tricornatum</i>)	Up to 4 leaf	750 to 1000 plus Hasten at 1000 mL per 100 L water	Use the higher rate where the density of the target weed is high and/or the weeds are at more advanced growth stages. The higher rate should also be used when environmental conditions are marginal.

Crop	Weeds	Target Size	Product Rate (mL/ha)	Critical Comments
Wheat, Barley (GS12 to 32)	Suppression of Statice (<i>Limonium lobatum</i>)	Up to 4 leaf	750 to 1000 plus Hasten at 1000 mL per 100 L water	Use the higher rate where target weed density is high, at more advanced growth stages, coverage is compromised or environmental conditions are marginal. Control levels achieved may be reduced where coverage of target weeds is compromised. Will reduce plant numbers but some recovery may occur in larger plants under marginal soil moisture conditions. May be tank mixed with 600 g/L LVE MCPA at 440 mL/ha where coverage is inadequate due to crop shading.

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

GENERAL INSTRUCTIONS

TALINOR® Herbicide is a foliar applied post-emergent herbicide containing the active ingredients bicyclopyrone, a Group 27 triketone herbicide, and bromoxynil, a Group 6 nitrile herbicide. TALINOR® is predominantly taken up through leaf tissue, with very little absorption through plant roots and does not provide residual control of weeds that germinate after application. Bicyclopyrone causes the rapid breakdown of chlorophyll in leaf tissue, resulting in bleaching of leaf tissue. Bromoxynil blocks the activity of Photosystem II, leading to cessation of photosynthesis and destruction of leaf tissues.

TALINOR® should only be applied to weeds that are actively growing and not suffering stress, especially in the case of low soil moisture. In the event of application to stressed weeds, reduced efficacy may result and treated plants may recover. However, their biomass will be substantially reduced and their competitiveness will be lower.

Because of the contact nature of bicyclopyrone and bromoxynil, the efficacy of TALINOR® is heavily dependent on good coverage of target weeds. The rapid speed of activity of TALINOR® means that translocation is limited, with lower activity in areas of the plant not directly treated at application. As a result, when weeds are shaded due to large size, high densities or because of coverage from an advanced crop canopy, efficacy is likely to be reduced and treated plants may recover. However, their biomass will be substantially reduced and their competitiveness will be lower.

TALINOR® efficacy will be maximised when applied early in the season (2 to 5 leaf crop growth stage) while shading of weeds by the crop canopy or from other weeds is minimised. A follow up application of another herbicide may be required if subsequent germinations occur.

In Queensland, Northern New South Wales and the Northern Ag Region of Western Australia, higher light intensity and warmer temperatures mean there is a greater risk of crop phytotoxicity, particularly in wheat. In these areas, applying TALINOR® in the afternoon or at night, particularly where overnight minimum temperatures in the week prior to application are mild and frost-free, to crops that are growing rapidly will exacerbate this risk. Refer to the Crop Safety section for further detail.

Full details of application and environmental factors that can affect TALINOR® efficacy and crop safety are listed below and should be reviewed before use.

Mixing

TALINOR® is an emulsifiable concentrate that mixes readily with water. Fill the spray tank to one quarter full. Add TALINOR® and continue adding water to make up to the final spray volume. Agitate while mixing and spraying.

When tank mixing, wettable powder or water dispersible granule formulations should be added to the tank first followed by suspension concentrates (flowables), water soluble salts then TALINOR® or other emulsifiable concentrate formulations. Maintain thorough agitation during mixing and application. Agitate tank mixes vigorously if allowed to stand. Note: Tank mix spray solutions should NOT be left standing in the vat overnight.

Surfactant/Adjuvant

It is recommended that TALINOR® be applied with Hasten Spray Adjuvant at a rate of 1000 mL/100 L of water. Non-ionic surfactants and soya-lipid based adjuvants must NOT be used with TALINOR® as a significant reduction in efficacy will occur.

Compatibility

Physical compatibility has been assessed for a range of products and, providing the correct mixing order is followed and accompanied with strong agitation of the spray solution, compatibility will be acceptable. Refer to your local Syngenta representative for the most up to date information relating to the compatibility and crop safety of herbicide tank mixtures or visit our website at www.syngenta.com.au. As formulations of other manufacturers' products are beyond the control of Syngenta and water quality varies with location, all mixtures should be tested prior to mixing commercial quantities.

TALINOR® must NOT be mixed with liquid urea ammonium nitrate (UAN) or ammonium sulphate (either granular or liquid) under any circumstances.

Application

DO NOT apply by air.

DO NOT apply using a misting applicator.

TALINOR® is sensitive to good coverage of the target weeds, so the highest water rate appropriate to the weed control scenario presented should be used. This is particularly important where coverage is already compromised due to shading of the target weeds, either through inter-weed shading or because of an advanced crop canopy.

Use a nozzle delivering spray quality in the medium spray range, with a minimum of 75 L/ha of water volume up to 150 L/ha.

Additionally, when targeting more advanced weeds, it is recommended that higher water rates are used, even where inter-weed or crop shading is minimal.

Crop Safety

DO NOT apply to durum wheat.

DO NOT apply to crops undersown with legumes.

Under some environmental conditions, crop phytotoxicity may be observed following the use of TALINOR®. This is more likely to result in wheat than barley and presents as bleaching or yellowing of leaves, generally interveinal, that emerge in the period after spraying. The effect is transient and crop recovery, under good growing conditions, is rapid.

Use in northern growing regions (QLD, NSW and the Northern Ag Region of Western Australia), where light intensity is greater is likely to increase the risk of crop phytotoxicity. However, under the following circumstances, the risk of phytotoxicity is greatly reduced:

1. Application early in the day - application in the morning reduces the severity and likelihood of crop damage.
2. When an application is made to a crop that has adequate soil moisture such that it is not stressed and is healthy. In particular, where a crop may have been suffering from moderate moisture stress, it is important to wait until useful rainfall has been received and the crop has recovered before making an application of TALINOR®.
3. Cool minimum temperatures prior to application - moderate overnight temperatures will slow the rate of crop growth and allow recovery from stress conditions. Note however that low temperature, frosty conditions may compromise weed control and should be avoided.
4. Moderate maximum temperatures following application - avoid applying TALINOR® if it is expected that temperatures will be warm in the 7 days following application, particularly if the crop is already well watered and growing rapidly.

Over application, due to boom overlap on headlands and at boom tips on adjacent passes of spraying equipment, is likely to increase both the likelihood and severity of crop damage. Care should be paid to ensure over application is minimised, particularly in northern growing regions.

Crop Rotation Recommendations

Minimum recropping intervals should be observed following the use of TALINOR®. TALINOR® is more rapidly degraded at higher soil pH, so carryover is more likely on acid soils.

Minimum rainfall or irrigation requirements apply for the stated recropping intervals to apply. Lower rainfall amounts may necessitate an extended recropping period. If patchy, light rainfall events occur with extended periods of dry weather between, sufficient soil moisture for effective breakdown of TALINOR® may not be achieved, even if the minimum rainfall amount is achieved.

Plantback to Winter Crops and Pastures

Crop	TALINOR® Rate (mL/ha)	Minimum Rainfall or Irrigation Required	Re-cropping Interval
Wheat, Barley, Oats, Triticale, Canola, Lupins, Vetch, Faba Beans, Lentils, Field Peas, Sub-clover*, Medic* and Lucerne*	Up to 1200	250 mm	9 months

* Where TALINOR® is applied at a rate of 1200 mL/ha on acid soils, seedling vigour reduction and reduced plant stand may occur. However, impacts on seedling vigour are expected to be transient and no long term impact is likely.

Areas that receive double rates, such as boom overlaps, may exhibit increased crop effect. Generally, this is a bleaching or yellowing of the crop and is expected to be transient but may be accompanied by a crop biomass reduction.

Plantback to Summer Crops and Pastures

Crop	TALINOR® Rate (mL/ha)	Minimum Rainfall or Irrigation Required	Re-cropping Interval
Maize, Pigeon Pea, Cowpea, Mungbean, Adzuki Bean, Sorghum, Cotton*, Soybean*, Sunflower*, Safflower**	1200	150 mm	4 months

* Where TALINOR® is applied at a rate of 1200 mL/ha, crop tolerance may be reduced if waterlogging occurs in the first 6 weeks after planting. However, phytotoxicity (in the form of bleaching or chlorosis) and crop biomass reductions are likely to be transient with full recovery expected and no impact on crop yield.

** Where TALINOR® is applied at a rate of 1200 mL/ha, crop tolerance may be reduced if waterlogging occurs in the first 6 weeks after planting. Phytotoxicity (in the form of bleaching or chlorosis) and crop biomass reductions are possible along with minor reductions in crop yield.

Areas that receive double rates, such as boom overlaps, may exhibit increased crop effect. Generally, this is a bleaching or yellowing of the crop and is expected to be transient but may be accompanied by a crop biomass reduction.