



Company Name: NOVAGUARD PTY LTD
Product Name: NovaGuard Diflufenican M Selective Herbicide
APVMA Approval No: 80808/101696

Label Name:	NovaGuard Diflufenican M Selective Herbicide
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Signal Headings:	CAUTION KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
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Constituent Statements:	ACTIVE CONSTITUENTS: 250 g/L MCPA present as the ethyl hexyl ester, 25 g/L DIFLUFENICAN SOLVENTS: 325 g/L LIQUID HYDROCARBONS, 150 g/L N-METHYL-2-PYRROLIDONE
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Mode of Action:	GROUP F I HERBICIDE
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Statement of Claims:	For the control of broadleaf weeds in winter cereals and clover as specified in Directions for Use Table.
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Net Contents:	5 L, 20 L, 110 L, 1000 L
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Restraints:	DO NOT apply to crops or weeds which are stressed due to dry or excessively moist conditions. DO NOT apply to crops under stress due to disease or insect damage. DO NOT apply to frost affected crops or if frosts are imminent. DO NOT apply when heavy rain is expected within 4 hours.
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Directions for Use:	This section contains file attachment. File Name: DFU -Diflu M - REVISED 0615.docx File Size: 24409 bytes
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Other Limitations:	
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Withholding Periods:	<p>WITHHOLDING PERIOD: Crop Harvest: NOT REQUIRED WHEN USED AS DIRECTED. All Crops: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 7 DAYS AFTER APPLICATION.</p>
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Trade Advice:	
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General Instructions:	<p>This section contains file attachment. File Name: Diflu M -Gen Instructions REVISED 0615.docx File Size: 21789 bytes</p>
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Resistance Warning:	<p>NovaGuard Diflufenican M Selective Herbicide is a member of the phenoxy and nicotinanalide groups of herbicides and acts by inhibiting carotenoid biosynthesis and disrupting plant cell growth. For weed resistance management NovaGuard Diflufenican M Selective Herbicide is both a Group F and a Group I herbicide. Some naturally occurring weed biotypes resistant to NovaGuard Diflufenican M Selective Herbicide and other Group F and Group I herbicides may exist through normal genetic variability in and weed population if these herbicides are used repeatedly. These resistant weeds will not be controlled by NovaGuard Diflufenican M Selective Herbicide or other Group F or Group I herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, NovaGuard Pty Ltd accepts no liability for any losses that may result from the failure of NovaGuard Diflufenican M Selective Herbicide to control resistant weeds.</p>
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Precautions:	
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Protections:	<p>PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS. DO NOT apply under weather conditions, or from spraying equipment, that may cause drift onto nearby susceptible plants/crops such as cotton, tobacco, tomatoes, vines, lupins, fruit trees and ornamentals.</p> <p>PROTECTION OF LIVESTOCK Grazing Precaution Sprayed weeds may become more palatable to stock and a higher intake of some weeds may result in stock poisoning and death from causes such as nitrate poisoning. Care should be taken especially where capeweed, Paterson's curse and variegated thistles predominate in the pasture. Avoid grazing with young or breeding stock. Do not graze horses or pigs on Paterson's curse. If in doubt, contact your nearest Department of Agriculture.</p> <p>PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT Dangerous to fish. DO NOT contaminate streams, rivers or waterways with the chemical or used containers.</p>
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Storage and Disposal:	<p>Store in the closed, original container in a cool, well ventilated area. Do not store for prolonged periods in direct sunlight.</p> <p>5L and 20 L containers only</p>
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Triple or preferably pressure 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 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.

Re-fillable Containers

If tamper evident seals are broken prior to initial use then the integrity of the contents cannot be assured. Empty product as required into application equipment. Do not attempt to breach the valve system or filling point, or contaminate the container with water or other products. Ensure that equipment used in transfer of the product is disconnected, triple rinsed and drained after each use. When the container is empty, close all caps and valves and return the container to the point of purchase.

Safety Directions:

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

First Aid Instructions:

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26. If swallowed, do NOT induce vomiting. Give a glass of water. If in eyes, wash out immediately with water.

First Aid Warnings:

DIRECTIONS FOR USE

Crop	Weeds Controlled	Stage of Weed Growth	State	Rate/ha	Critical Comments
CEREALS Wheat, Barley, Oats, Triticale, Cereal Rye (including cereals undersown with clover)	Wild Radish	Up to the 2 leaf stage and not more than 60 mm in diameter	WA only	250 mL	<p>CROP STAGE Cereals Up to 750 mL (3 leaf to late tillering stage – Z13 to 30) Over 750 mL (5 leaf to late tillering stage – Z15 to 30) Optimum results are achieved when sprayed at 3-5 leaf crop stage (generally 4-8 weeks post sowing).</p> <p>WA only: DO NOT apply to Barley or Kulin Wheat before the 5 leaf stage (Z15).</p> <p>Warning: NovaGuard Diflufenican M Selective Herbicide may cause transient crop yellowing of cereals. Some varieties of oats have not been tested. (Refer to 'Crop Tolerance' section of General Instructions).</p> <p>Application is recommended prior to the eighth trifoliolate leaf stage, however, applications prior to the third leaf stage may result in crop damage especially under stressed conditions and in sandy soils. DO NOT apply to Annual Medics or Lucerne.</p> <p>Warning: NovaGuard Diflufenican M Selective Herbicide may cause transient crop yellowing of clover, and may affect growth and seed set of some varieties of clover. (Refer to 'Crop Tolerance' section of General Instructions).</p> <p>WEED STAGE Apply when weeds are actively growing. In most situations the rate specified for each weed size will give satisfactory control. Under certain conditions such as:</p> <ul style="list-style-type: none"> • High crop and weed density • Late season germinations • Abnormal weed growth (including early flowering), high rate of product (up to the maximum rate of application specified for that weed) may be required. <p>NovaGuard Diflufenican M Selective Herbicide will not effectively control:</p> <ul style="list-style-type: none"> • Regrowth of suppressed weeds; • Transplanted weeds; • Regrowth from rhizomes or roots; • Weeds growing under stress from previous herbicide applications. <p>GRAZING: Efficacy on larger weeds will be improved by grazing with normal levels of stock after 7 day withholding period. Refer to 'Protection of Livestock' for grazing precautions.</p> <p>APPLICATION Activity of this product will be reduced if weeds are stressed. Optimum results will be obtained if good soil moisture exists at and after application. Where crop or weed density is high, water volume should be increased.</p> <p>WILD RADISH NovaGuard Diflufenican M Selective Herbicide will provide residual control of Wild Radish for up to 4 weeks after application. Effective residual activity of this product may be reduced where:</p> <ul style="list-style-type: none"> • Rates lower than 1.0 L/ha are used; • Dry conditions prevail; • Poor coverage of the soil surface is achieved; • Crop is planted in non-wetting sand; • Soils contain a high content of organic matter. Optimum results will be obtained if good soil moisture exists at and after application.
		Up to the 4 leaf stage and not more than 120 mm in diameter	All States	500 mL	
		Up to the 6 leaf stage and not more than 150 mm in diameter		750 mL	
		Up to the 8 leaf stage and not more than 180 mm in diameter		1.0 L	
	Charlock, Hedge Mustard, Indian Hedge Mustard, Shepherd's Purse, Turnip Weed, Wild Turnip	Up to the 2 leaf stage and not more than 60 mm in diameter		500 mL	
		Up to the 4 leaf stage and not more than 120 mm in diameter		750 mL	
		Up to the 6 leaf stage and not more than 150 mm in diameter		1.0 L	
	London Rocket	Up to the 5 leaf stage and not more than 120 mm in diameter	Qld only	750 mL	
	Ward's Weed		SA only		
	Capeweed	Up to the 2 leaf stage and not more than 60 mm in diameter	All States	500 mL	
		Up to the 4 leaf stage and not more than 120 mm in diameter		1.0 L	
	Crassula	Up to the 2 leaf stage		500 mL	
		Up to the 4 leaf stage		750 mL	
	Prickly Lettuce	Up to the 2 leaf stage		500 mL	
		Up to the 4 leaf stage		750 mL	
		Up to the 6 leaf stage		1.0 L	
	Dense-flower Fumitory	Up to the 2 leaf stage		750 mL	
	Corn Gromwell, Saffron Thistle, Toad Rush			1.0 L	
Deadnettle		NSW, Vic, SA only	1.0 L		
Sorrel	Up to the 2 leaf stage	Vic only	1.0 L		
Canola (Rape)	Up to the 4 leaf stage	All States	500 mL		
Purple Goosefoot	Up to the 6 leaf stage	Qld only	500 mL		
Turnip Weed Wild Turnip	Cotyledon to 2 leaf	NSW only (west of Newell Hwy). SA only (Eyre peninsula north of the line between Venus Bay and Cowell)	350 mL		
CEREALS Wheat, Barley, Oats, Triticale, Cereal Rye	Fumitory	2 – 6 leaf stage	All States	500 mL + 200 mL terbutryn (500 g/L)	

SUPPRESSION OF THE FOLLOWING WEEDS

Crop	Weeds Controlled	Stage of Weed Growth	State	Rate/ha	Critical Comments
CEREALS Wheat, Barley, Oats, Triticale, Cereal Rye (including cereals undersown with clover) PASTURE Newly Sown and Established Clover-based pasture, Clover for Hay and Seed Production	Saffron Thistle	Up to the 6 leaf stage	All States	1.0 L	Refer to critical comments in the previous section.
	Chickweed, Fireweed, Hexham Scent (King Island Melilot), Iceplant, Mouse-eared Chickweed, Night-scented Stock, Paterson's Curse, Peppercress, Skeleton Weed, Long Storksbill, Volunteer Lupins	Up to the 4 leaf stage		750 mL	
	Wireweed (hogweed)			1.0 L	
	Common Sowthistle (Milk Thistle), Cowvine, Dock, Doublegee, (Spiny Emex), Fat Hen, Horehound, Hyssop Loosetrife, Marshmallow, Rough Poppy, Scarlet Pimpernel, Stemless Thistle, Tree Hogweed, Variegated Thistle, Vetch (Tares).	Up to the 2 leaf stage			
Wheat, Barley, Oats, Triticale, Cereal Rye	Wild Radish	Up to the 4 leaf stage and not more than 120 mm in diameter		350 mL plus 200 mL L.V.E. MCPA (500 g/L)	Refer also to all Critical Comments relating to weed stage, grazing, application and wild radish above. *Reduced efficacy (suppression only) may be achieved on wild radish larger than 8 leaf or greater than 180 mm in diameter. DO NOT use this tank-mix if cereals are undersown with lucerne or annual medics. Crop Stage NovaGuard Diflufenican M Selective Herbicide 350 mL + L.V.E. MCPA 200 mL: Apply from 3 leaf to fully tillered (Zadoks Z13 to Z30). NovaGuard Diflufenican M Selective Herbicide 500 mL + L.V.E. MCPA 200 mL: Apply from 3 leaf to fully tillered (Zadoks Z13 to Z30). NovaGuard Diflufenican M Selective Herbicide 500 mL + L.V.E. MCPA 400 mL: Apply from 5 leaf stage to fully tillered (Zadoks Z15 to Z30). Optimum results are achieved when sprayed at 3-5 leaf crop stage (generally 4-8 weeks post-sowing). WA only: DO NOT apply to Barley or Kulin Wheat before the 5 leaf stage (Z15). Warning: NovaGuard Diflufenican M Selective Herbicide may cause transient crop yellowing of cereals. Some varieties of oats have not been tested. (Refer to 'Crop Tolerance' section of General Instructions). Observe instructions also on L.V.E. MCPA product label.
		Up to the 6 leaf stage and not more than 150 mm in diameter		500 mL plus 200 mL L.V.E. MCPA (500 g/L)	
		Up to the 8 leaf stage and not more than 180 mm in diameter*		500 mL plus 400 mL L.V.E. MCPA (500 g/L)	

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

WEED LIST
WEED

Common Name	Scientific Name
Canola (Rape)	<i>Brassica napus</i>
Capeweed	<i>Arctotheca calendula</i>
Charlock	<i>Sinapis arvensis</i>
Chickweed	<i>Stellaria media</i>
Common Sowthistle (Milk Thistle)	<i>Sonchus oleraceus</i>
Corn Gromwell	<i>Buglossoides arvensis</i>
Cowvine	<i>Ipomoea lonchophylla</i>
Crassula	<i>Crassula</i> spp.
Deadnettle	<i>Lamium amplexicaule</i>
Dense-flower Fumitory	<i>Fumaria densiflora</i>
Dock	<i>Rumex</i> spp.
Doublegee (Spiny Emex)	<i>Emex australis</i>
Fat Hen	<i>Chenopodium album</i>
Fireweed	<i>Senecio</i> spp.
Fumitory	<i>Fumitory</i> spp.
Hedge Mustard	<i>Sisymbrium officinale</i>
Hexham Scent (King Island Melilot)	<i>Mellilotus indicus</i>
Horehound	<i>Marrubium vulgare</i>
Hyssop Loosestrife	<i>Lythrum hyssopifolia</i>
Iceplant	<i>Mesembryanthemum</i> spp.
Indian Hedge Mustard	<i>Sisymbrium orientale</i>
London Rocket	<i>Sisymbrium irio</i>
Long Storksbill	<i>Erodium botrys</i>
Marshmallow	<i>Malva parviflora</i>
Mouse-eared Chickweed	<i>Cerastium glomeratum</i>
Night-scented Stock	<i>Matthiola longipetala</i>
Paterson's Curse	<i>Echium plantagineum</i>
Peppercress	<i>Lepidium</i> spp.
Prickly Lettuce	<i>Lactuca serriola</i>
Purple Goosefoot	<i>Scleroblitum atriplicinum</i>
Rough Poppy	<i>Papaver hybridum</i>
Saffron Thistle	<i>Carthamus lanatus</i>
Scarlet Pimpernel	<i>Anagallis arvensis</i>
Shepherd's Purse	<i>Capsella bursa-pastoris</i>
Skeleton Weed	<i>Chondrilla juncea</i>
Sorrel	<i>Rumex</i> spp.
Stemless Thistle	<i>Onopordum acaulon</i>
Toad Rush	<i>Juncus bufonius</i>
Tree Hogweed	<i>Polygonum patulum</i>
Turnip Weed	<i>Rapistrum rugosum</i>
Variiegated Thistle	<i>Silybum marianum</i>
Vetch (Tares)	<i>Vicia sativa</i>
Volunteer Lupins	<i>Lupinus</i> spp.
Ward's Weed	<i>Carrichtera annua</i>
Wild Radish	<i>Raphanus raphanistrum</i>
Wild Turnip	<i>Brassica tournefortii</i>
Wireweed (Hogweed)	<i>Polygonum aviculare</i>

GENERAL INSTRUCTIONS

Tolerance

Some pre-emergence herbicides, such as atrazine, can cause stress to certain crops resulting in an increase in crop damage when using this product. Sub-clover is particularly sensitive.

Cereals

After application some transient crop yellowing may occur. This usually appears as yellow or white banding on leaves. Provided the crop is not under stress from pre-emergent herbicide, root disease, insect damage, frost, dry or excessively moist conditions, the development of the crop and subsequent growth will be unaffected.

Warning (Oats)

The tolerance of varieties Esk and Nile (the two main varieties grown in Tasmania) to NovaGuard Diflufenican M Selective Herbicide has not been tested. Test a small area of crop before using NovaGuard Diflufenican M Selective Herbicide over large areas. Consult your local NovaGuard Pty Ltd representative for advice on specific varieties.

Pasture

The tolerance of clover varieties to NovaGuard Diflufenican M Selective Herbicide can vary with rate of application, soil type, crop health, stage of growth and degree of moisture and temperature stress.

Warning

NovaGuard Diflufenican M Selective Herbicide Selective Herbicide may result in transient crop yellowing and suppression of growth with a resultant initial reduction in dry matter, particularly at rates in excess of 500 mL/ha and in areas of double spray. For this reason application is recommended prior to the 8th trifoliolate leaf stage. However, at the lower rates (500 mL/ha and less) and under normal growing conditions, subsequent growth and seed yield should not be affected. Under normal growing conditions, the following varieties have shown acceptable levels of foliage tolerance to NovaGuard Diflufenican M Selective Herbicide applied at 500 mL/ha:

ArrowLeaf: Zulu

Balansa: Paradana

Berseem: Sacromonte

Persian: Kyambro, Lupers, Maral

White: Haifa

Subterranean Clover: Daliak, Dalkeith, Denmark, Esperance, Geraldton, Goulburn, Karridale, Larissa, Leura, Mt. Barker, Nungarin, Rosedale, Seaton Park, Trikkala and Woogenellup.

The effects of NovaGuard Diflufenican M Selective Herbicide on clover seed yield have been tested on the following varieties. Under normal growing conditions they show levels of tolerance to NovaGuard Diflufenican M Selective Herbicide applied at 500 mL/ha.

Subterranean Clover: Esperance, Goulburn, Larissa, Seaton Park and Trikkala.

Warning

Rose and Strawberry clover have shown increased sensitivity to NovaGuard Diflufenican M Selective Herbicide. NovaGuard Diflufenican M Selective Herbicide may affect the seed of yield of subterranean variety Woogenellup. Some pasture grasses, including Phalaris and Cocksfoot, may show some initial reduction in vegetative growth after application of Panther. Care should be exercised if sensitive clover varieties or grasses are included in the pasture sward. Varieties not listed should be tested before using NovaGuard Diflufenican M Selective Herbicide over large areas. Consult your local NovaGuard Pty Ltd representative for advice on specific varieties.

Subsequent Crops

To reduce effect on susceptible crops (e.g. canola); ensure thorough cultivation of soil prior to the sowing of these crops.

Mixing

To ensure even mixing, half fill the spray tank with clean water and add the required amount of product. Agitate thoroughly then add the remainder of the water. Agitate again before spraying commences. Reseal part-used product container immediately after use. Spray mixtures containing NovaGuard Diflufenican M Selective Herbicide should not be left to stand overnight. Prolonged periods of exposure to cold temperature could result in settling out of the product in the mixture.

Warning

The rubber components present in some spraying units may be affected by exposure to the solvents in NovaGuard Diflufenican M Selective Herbicide and some other agricultural products. To reduce the risk it is recommended that the spray unit be thoroughly washed with a boom cleaner and fresh water after use. Contact the spray unit manufacturer to determine the suitability of the rubber components for use with agricultural products.

Application

Boom Sprayer

A minimum of 50 L of water per hectare should be used, however, for optimum results water rates of 70 - 100 L/ha are recommended. Increase the water volume if weed infestation is heavy or crop cover is dense. Complete coverage of weeds is essential.

Selective Herbicide

Aircraft (NSW, Vic, SA only)

Apply in a minimum of 30 L water per hectare. Effective control will only be achieved where good coverage of leaf surface is achieved.

Compatibility

The following products are physically compatible with NovaGuard Diflufenican M Selective Herbicide as a two-way mixture in the spray tank but should only be used for the crops specified:

Crop	Panther	Compatible Product
Wheat, triticale and cereal rye only	Up to 750 mL/ha	Hoegrass (also barley), Puma Progress (wild oats only), Tristar Advance (1.5 L rate only), Wildcat (wild oats only)
Cereals (including undersown)	All rates	Chlorpyrifos (500 g/L), dimethoate, endosulfan
Cereals (not undersown)	Up to 500 mL/ha	Metsulfuron, Chlorsulfuron, L.V.E. MCPA, Triasulfuron
	All rates	Bromoxynil (200 g/L), Amine 625, clopyralid, Tordon 50-D, dicamba (900 g/kg) (up to 115 g only), Eclipse
Wheat, Barley, Triticale, and Cereal Rye only (not undersown)		Tralkoxydim
Wheat only (not undersown)		Clodinafop
Clover	Up to 750 mL/ha	Targa, Fusilade
Sub clover		Simazine Liquid, Simazine Liquid + Nuquat mixture
	Up to 1.0 L/ha	2,4-DB amine (500 g/L)

When mixing with other herbicides, crop yellowing may be enhanced. When mixing with Hoegrass, Wildcat, Puma Progress or Tristar Advance some reduction in the efficacy and speed of action of these products may occur. If the crop is stressed, the application of the herbicide tank-mixtures may cause yield reduction. When mixing with dicamba dry a temporary wilting may be evident in some crops after application. Growers should seek advice before spraying recently released cereal varieties. Use the recommended rates for both herbicides in the tank-mixture as well as the surfactant recommendation of the grass herbicide. If another herbicide is applied as a tank mix, observe the plantback restrictions on that label. DO NOT add surfactant when mixing NovaGuard Diflufenican M Selective Herbicide and Metsulfuron.

Simazine: Refer to the simazine label for correct application rates, especially with regard to soil types. This product may be mixed in the spray tank with one of the following insecticides according to the directions for use on the product: Hallmark 50EC, Dominex 100EC, Karate, Decis Forte EC, and Talstar.

Warning

DO NOT use crop oils with NovaGuard Diflufenican M Selective Herbicide or NovaGuard Diflufenican M Selective Herbicide mixtures with other products in cereals. As formulations of other manufacturer's products are beyond the control of NovaGuard Pty Ltd, all mixtures should be tested prior to mixing commercial quantities.