

POISON

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

Vortex[®] Herbicide

ACTIVE CONSTITUENTS:

6.25 g/L FLORASULAM

300 g/L 2,4-D

present as the 2-ETHYLHEXYL ESTER

GROUP **B I** HERBICIDE

Crops: Barley, Triticale, Wheat

Controls/Suppresses: Broadleaf weeds as specified in the Directions for Use

VORTEX[®] Herbicide contains a PHENOXY HERBICIDE that can cause severe damage to susceptible crops such as cotton, grapes, tomatoes, oilseed crops and ornamentals.



ADAMA

adama.com

CONTENTS: 5 L – 1000 L

DIRECTIONS FOR USE:

RESTRAINTS

DO NOT apply by aerial equipment.

DO NOT apply to crops or weeds which may be stressed due to prolonged periods of extreme cold, sustained high temperature within 48 hours of application, moisture stress (water-logging or drought), nutritional stress, root disease or previous herbicide treatments, as crop damage or reduced levels of control may result.

DO NOT apply if rain is likely to occur within three hours or if heavy rainfall that is likely to produce runoff is forecast within 48 hours.

SPRAY DRIFT RESTRAINTS

DO NOT apply with spray droplets smaller than a **COARSE** spray droplet size category according to 'APVMA Compliance Instructions for Mandatory COARSE or Larger Droplet Size Categories' located under this title in the GENERAL INSTRUCTIONS section of this label.

DO NOT apply when wind speed is less than 3 or more than 15 kilometres per hour, as measured at the application site.

DO NOT apply during surface temperature inversion conditions at the application site.

Users of this product **MUST make an accurate written record** of the details of each spray application within 24 hours following application, and must **KEEP** this record for at least 2 years. The spray application details that must be recorded are:

1) date with start and finish times of application; **2)** location address and paddock(s) sprayed; **3)** full name of this product; **4)** amount of product used per hectare and number of hectares applied to; **5)** crop or situation and weed or pest; **6)** wind speed and direction during application; **7)** air temperature and relative humidity during application; **8)** nozzle brand, type, spray angle, nozzle capacity and spray system pressure measured during application; **9)** name and address of person applying this product. (Additional record details may be required by the state or territory where this product is used.)

MANDATORY NO-SPRAY ZONES

Ground Application

Aquatic areas

DO NOT apply if there are aquatic and wetland areas including aquacultural ponds, surface streams and rivers downwind from the application area and within the mandatory no-spray zone shown in Table A below:

TABLE A – NO-SPRAY ZONES FOR PROTECTION OF THE AQUATIC ENVIRONMENT	
WIND SPEED RANGE AT TIME OF APPLICATION	DOWNWIND MANDATORY NO-SPRAY ZONE
from 3 to 20 kilometres per hour	10 metres

Terrestrial areas

DO NOT apply if there are sensitive crops, gardens, landscaping vegetation, protected native vegetation or protected animal habitat downwind from the application area and within the mandatory no-spray zone shown in Table B below:

TABLE B – NO-SPRAY ZONES FOR PROTECTION OF THE TERRESTRIAL ENVIRONMENT	
WIND SPEED RANGE AT TIME OF APPLICATION	DOWNWIND MANDATORY NO-SPRAY ZONE
from 3 to 20 kilometres per hour	60 metres

Table 1. CROP GROWTH STAGE

Refer to Table 2 below for weeds controlled/suppressed, application rates and other recommendations.		
PRODUCT RATE	CROP GROWTH STAGE	STATE(S)
600 – 820 mL/ha	Five-leaf stage – second node detectable (Z15 – Z32)	NSW, QLD
	Five-leaf stage – flag leaf just visible (Z15 – Z37)	ACT, SA, Tas, Vic, WA
600 mL/ha plus Climbing buckwheat herbicide e.g. Enforcer® 242	As above. When using VORTEX® in a tank mix with a Climbing buckwheat herbicide, do not apply outside the recommended application window for the tank mix partner.	

Table 2. WEEDS CONTROLLED OR SUPPRESSED IN BARLEY, TRITICALE AND WHEAT ONLY

VORTEX® should only be applied according to the crop growth stage recommendations in Table 1.				
CROPS	WEED	WEED STAGE	RATE	CRITICAL COMMENTS
Wheat, barley, triticale	Bedstraw (<i>Galium</i> spp.)	Up to 6 whorl and not more than 100 mm in height	820 mL/ha + Uptake [†] Spraying Oil at 500 mL/100 L water (0.5% v/v)	Apply to actively growing weeds. Best results are usually achieved when weeds are small (2-4 leaf). However, actively growing weeds larger than the range specified (in the weed stage column) will often be well controlled if treated under warm conditions. Some regrowth can occur when above average spring rainfall occurs. Integrated Weed Management: Weeds that survive treatment must not be allowed to set viable seed. Use another management technique or herbicide from a different mode-of-action group to avoid viable seed production.
	Doublegee/ Spiny emex (<i>Emex australis</i>)	Up to the 4 leaf stage and not more than 100 mm in diameter		
	Indian hedge mustard (<i>Sisymbrium orientale</i>) Turnip weed (<i>Rapistrum rugosum</i>) Wild turnip (<i>Brassica tournefortii</i>) Wild radish (<i>Raphanus raphanistrum</i>) Volunteer conventional/triazine tolerant canola (<i>Brassica napus</i>)			
	Vetch (<i>Vicia</i> spp.) Crop volunteers including: Chickpea Lentil Lupin	Up to the 6 leaf stage and not more than 120 mm in height		
	Faba beans	Up to the 6 leaf stage and not more than 150 mm in height		
	Peas	Up to the 6 node stage and not more than 150 mm in height		

VORTEX® should only be applied according to the crop growth stage recommendations in Table 1. (continued)				
CROPS	WEED	WEED STAGE	RATE	CRITICAL COMMENTS
Wheat, barley, triticale (cont.)	Climbing buckwheat/ Black bindweed (<i>Fallopia convolvulus</i>) Variegated thistle (<i>Silybum marianum</i>) Suppression only	Up to 6 leaf stage	820 mL/ha + Uptake [†] Spraying Oil at 500 mL/100 L water (0.5% v/v)	Suppression of Climbing buckwheat and Variegated thistle is provided for up to 6 leaf plants growing under conditions of good soil moisture.
	Climbing buckwheat/ Black bindweed (<i>Fallopia convolvulus</i>) Variegated thistle (<i>Silybum marianum</i>) Control NNSW and Qld only		600 mL/ha + Uptake Spraying Oil at 500 mL/100 L water (0.5% v/v) + Registered Climbing buckwheat product	At the time of application, weeds must be actively growing under conditions of good soil moisture. To control Climbing buckwheat, tank mix VORTEX® with a registered Climbing buckwheat herbicide e.g. Enforcer® 242.
	Turnip weed (<i>Rapistrum rugosum</i>) Volunteer chickpea (<i>Cicer arietinum</i>) Volunteer faba bean (<i>Vicia faba</i>) NNSW and Qld only	Up to 4 leaf stage and not more than 100 mm in diameter/ height	600 mL/ha + Uptake Spraying Oil at 500 mL/100 L water (0.5% v/v)	Apply to actively growing weeds. Best results are usually achieved when majority of weeds are small (<4 leaf). Some regrowth can occur when above average spring rainfall occurs.

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

WITHHOLDING PERIODS:

HARVEST WITHHOLDING PERIOD: BARLEY, TRITICALE and WHEAT: NOT REQUIRED WHEN USED AS DIRECTED.

When using VORTEX® Herbicide in a tank mix with another product, observe whichever product Harvest Withholding Period is the longer.

GRAZING WITHHOLDING PERIOD: DO NOT GRAZE OR CUT TREATED CROPS FOR STOCK FEED FOR 7 DAYS AFTER APPLICATION.

When using VORTEX® Herbicide in a tank mix with another product, observe whichever product Stockfeed Withholding Period is the longer.

GENERAL INSTRUCTIONS

MIXING

VORTEX® Herbicide is a suspo-emulsion formulation which may show some separation on storage. Roll, shake or invert the container several times to ensure that VORTEX® has completed resuspended before measuring to mix.

APVMA Compliance Instructions for Mandatory COARSE or Larger Droplet Size Categories

These instructions inform those using this chemical product how to lawfully comply with the requirement of a COARSE or larger spray droplet size category for spray application.

Spray droplet size categories are defined in the ASAE S572 Standard (newer name may also be shown as ASABE) or the BCPC guideline. Nozzle manufacturers may refer to one or both of these documents, to identify droplet size categories; however, for a nozzle to comply with this requirement, the manufacturer must refer to at least one.

Complying with the label requirement to use a specific droplet size category means using the correct nozzle that will deliver that droplet size category under the spray operation conditions being used. The APVMA has approved only the following specific methods for choosing the correct nozzle. Use one of the methods specified in these instructions to select a correct nozzle to deliver a COARSE or larger droplet size category.

USE ONLY nozzles that the nozzles' manufacturer has rated to deliver a COARSE, a VERY COARSE or an EXTREMELY COARSE droplet size category, as referenced in ASAE S572 or BCPC. Choose a nozzle that is specified to provide the droplet size category required in the label Spray Drift Restraints.

DO NOT use a higher spray system pressure than the maximum the manufacturer specifies for the selected nozzle to deliver the droplet size category required in the label Spray Drift Restraint.

APPLICATION

DO NOT apply by aerial equipment. Apply VORTEX® Herbicide only via ground application using coarse spray droplets according to ASAE S572 Standard or the BCPC Guideline. Only apply VORTEX® using an accurately calibrated spray rig in a water volume of 80-100 L/ha.

SPRAY APPLICATIONS AND SPRAY DRIFT MANAGEMENT

USE ONLY when wind speed is more than 3 kilometres per hour or less than 15 kilometres per hour, as measured by an anemometer at the application site.

USE ONLY coarse to very coarse spray according to the ASAE S572 definition for standard nozzles.

Application checklist:

- Ensure sprayer is cleared/decontaminated before commencing
- Inform your neighbours prior to spraying
- Ensure sprayer is set-up correctly for the particular application
- Check
 - Boom calibration – at nozzle
 - Nozzle choice – low drift/correct spray quality – coarse to very coarse droplet
 - Suitable boom height
 - Speed for intended application
- You must check, determine and record the weather conditions immediately prior to, and immediately after the spray application is made.
- Record
 - Temperature
 - Relative humidity
 - Delta T
 - Wind speed (min 3 km/h, max 15 km/h)
 - Is there a temperature inversion?
- Night Spraying – Extra care is required to ensure that inversion conditions are not present. Use a smoke generator to determine wind direction and presence of inversion conditions.

COMPATIBILITY

VORTEX® Herbicide is compatible with the following:

Broadleaf Herbicides: ADAMA MCPA 750, ADAMA LVE MCPA 570, Enforcer® 242, Enforcer® 75-D, Cutlass®, Zulu® Evo, Zulu® 300, ADAMA 2,4-D Amine 625, Amicide[†] Advance 700, Flagship®, Hotshot[†].

Adjuvants: Always use Uptake[†] Spraying Oil (500 mL/100 L water).

CLEANING SPRAY EQUIPMENT

After using VORTEX® Herbicide, empty the tank completely and drain the whole system. Thoroughly wash inside the tank using a pressure

hose, drain the tank and clean any tank, pump, line and nozzle filters.

Partial Cleaning (Rinse only – before using rig to spray barley, triticale and wheat):

After cleaning the tank as above, quarter fill the tank with clean water and circulate through the pump, line, hoses and nozzles. Drain and repeat procedure twice.

Complete Cleaning (Decontamination – before using rig to spray crops that are susceptible to VORTEX® Herbicide):

- After cleaning the tank as above, quarter fill the tank with clean water and add a liquid alkali detergent at 500 mL/100 L water and circulate throughout the system for at least fifteen minutes. Note: Chlorine-based cleaners are NOT recommended.
- Drain the whole system. Then remove filters and nozzles and clean separately.
- Finally, rinse inside the tank thoroughly using a pressure hose and flush system with clean water and allow to drain.

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

CROP SAFETY

While grain yields are unaffected, slight transient yellowing and growth retardation may occur in some conditions. Crop recovery is usually rapid, but may be slower if crops are stressed due to prolonged periods of extreme cold, moisture stress (water-logging or drought), nutritional stress, root disease, or previous herbicide treatment. Only apply VORTEX® at the recommended crop growth stages as per the guidelines in Table 1.

ROTATIONAL CROPS

Susceptible winter crops may be sown the year following application. Susceptible crops include: chickpeas, faba beans, field peas, lentils and lupins or pastures with a lucerne, medic or clover component. Please contact your local ADAMA representative before planting a summer crop following use of VORTEX® Herbicide.

RESISTANT WEEDS WARNING

VORTEX® contains members of the

GROUP	B I	HERBICIDE
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 phenoxy and triazolopyrimidine sulfonanilide group of herbicides. The product has the disrupters of cell growth and acetolactate synthase (ALS) inhibitor modes-of-action. For herbicide resistance management, VORTEX® is a Group I + Group B herbicide. Some naturally occurring weed biotypes resistant to the product and other Group I and/or Group B 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 I or Group B herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, ADAMA accepts no liability for any losses that may result from the failure of the product to control resistant weeds. Strategies to minimise the risk of herbicide resistance are available. Contact your farm chemical supplier, consultant or local Department of Agriculture.

VORTEX® Herbicide is a broadleaf herbicide with no grass weed activity and exerts no selection pressure on annual ryegrass.

RE-ENTRY

Do not allow entry into treated areas until the spray has dried when conducting low exposure activities such as hand weeding unless wearing cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's use.

Do not allow entry into treated areas for 13 days when conducting medium exposure activities such as scouting unless wearing 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 CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT apply under weather conditions or from spraying equipment that may cause spray drift onto nearby susceptible plants/crops, cropping lands or pastures. Avoid spray drift onto susceptible crops such as cotton, tobacco, tomatoes, vines, fruit trees, vegetables, legume crops and pastures, oilseed crops and susceptible trees (e.g. Kurrajongs, Belahs, Eucalyptus).

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Very toxic to aquatic life. DO NOT contaminate wetlands or watercourses with this product or used containers.

STORAGE AND DISPOSAL

5 L, 20 L, 1000 L: Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight.

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.

For refillable containers: Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

110 L (Mini-bulk Returnable Container): Store the original sealed container in a cool well-ventilated area. Do not store for prolonged periods in direct sunlight. DO NOT tamper with the Micro Matic valve or the security seal. DO NOT contaminate the container with water or any foreign matter. After each use of the product, please ensure that the Micro Matic coupler delivery system and hoses are disconnected, triple rinsed with clean water and drained accordingly. When the contents of the container have been used, please return the container to the point of purchase. The container remains the property of Adama Australia Pty. Ltd.

SAFETY DIRECTIONS

Repeated exposure may cause allergic disorders. Sensitive workers should use protective clothing. Avoid contact with skin. When opening the container and preparing the spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing). In addition, when mixing and loading, wear elbow-length chemical resistant gloves. Wash hands after use. After each day's use, wash gloves and contaminated clothing.

FIRST AID

If poisoning occurs contact a doctor or Poisons Information Centre. Phone Australia 131126.

MSDS

Additional information is listed in the material safety data sheet (MSDS). A material safety data sheet for VORTEX® Herbicide is available from ADAMA on request. Call Customer Service on 1800 423 262 or at adama.com.

CONDITIONS OF SALE: The use of VORTEX® Herbicide being beyond the control of the manufacturer, no warranty expressed or implied is given by Adama Australia Pty. Ltd., regarding its suitability, fitness or efficiency for any purposes for which it is used by the buyer, whether in accordance with the Directions for Use or not. Adama Australia Pty. Ltd. accepts no responsibility for any consequence whatsoever resulting from the use of this product.

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NOT A DANGEROUS GOOD ACCORDING TO THE AUSTRALIAN DANGEROUS GOODS (ADG) CODE.

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