

POISON

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



Crusader^{*}

Herbicide

ACTIVE CONSTITUENTS: 30 g/L PYROXSULAM
90 g/L CLOQUINTOCET-MEXYL
SOLVENTS: 750 g/L LIQUID HYDROCARBON

GROUP B HERBICIDE

An oil dispersible liquid formulation for post-emergent control of grass and broadleaf weeds in wheat, excluding durum varieties, as specified in the Directions for Use.

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DIRECTIONS FOR USE

For application to wheat only (excluding durum varieties); from 3 leaf up to 1st node of the crop.

RESTRAINTS

DO NOT apply to crops or weeds which may be stressed due to prolonged periods of extreme cold, moisture stress (water-logging or drought) or previous herbicide treatment, as crop damage or reduced levels of control may result (see crop safety warning below).

DO NOT spray if rain is likely to occur within 6 hours.

DO NOT apply later than the 1st node stage of the crops.

DO NOT apply by air.

DO NOT apply to durum varieties of wheat.

DO NOT double overlap or double spray wheat.

Table 1. Grass weed control

WEED	WEED STAGE	RATE (g/ha)	CRITICAL COMMENTS
Wild oats (<i>Avena</i> spp.), Brome grass (<i>Bromus diandrus</i>), Phalaris spp., Annual ryegrass (<i>Lolium rigidum</i>) – suppression	1-3 leaf (pre-tillering)	500 mL	Always use BS 1000® at 250 mL/100 L. Weeds may only be suppressed where densities of > 150 plants/m ² are treated. Ryegrass suppression: Weeds may survive treatment, but will usually show reduced growth and seed set.

Table 2. Broadleaf weed control

WEED	WEED STAGE & SIZE	RATE (g/ha)	CRITICAL COMMENTS
Bedstraw (<i>Galium tricornutum</i>)	Cotyledon - 6 whorl Up to 10 cm	500 mL	Always use BS 1000® at 250 mL/100 L. For heavy weed populations (> 50/m ²) use tank-mixes and highest rate of partner herbicide where a range is stated.
Turnip weed (<i>Rapistrum rugosum</i>)	Cotyledon - 4 leaf Up to 10 cm		
Volunteer crops:			
Canola (<i>Brassica napus</i>)	Cotyledon - 4 leaf Up to 10 cm		
Chickpea (<i>Cicer arietinum</i>)	Cotyledon - 6 leaf Up to 15 cm		
Faba bean (<i>Vicia faba</i>)	Cotyledon - 4 leaf Up to 10 cm		
Field pea (<i>Pisum sativum</i>)	Cotyledon - 6 node Up to 12 cm		
Lentil (<i>Lens esculentum</i>) – suppression	Cotyledon - 6 leaf Up to 8 cm		
Lupins (<i>Lupinus albus</i>) – suppression	Cotyledon - 4 leaf Up to 6 cm		
Medic spp.	Cotyledon - 4 leaf Up to 8 cm		

Table 2. Broadleaf weed control (continued)

WEED	WEED STAGE & SIZE	RATE (g/ha)	CRITICAL COMMENTS
Subclover (<i>Trifolium subterraneum</i>) – suppression	Cotyledon - 4 leaf Up to 5 cm	500 mL	Always use BS 1000® at 250 mL/100 L. For heavy weed populations (> 50/m ²) use tank-mixes and highest rate of partner herbicide where a range is stated.
Vetch (<i>Vicia sativa</i>) – suppression	Cotyledon - 4 leaf Up to 10 cm		
Capeweed (<i>Arctotheca calendula</i>)	Cotyledon - 6 leaf Up to 12 cm	500 mL + 60-120 g of Lontrel* 750 SG + 350 mL MCPA LVE (500 g/L) or + 500 mL Bromoxynil/MCPA (200 + 200 g/L) or + 500 mL Bromoxynil/MCPA + 40 g Lontrel 750 SG	Where tank-mixes are applied, treat wheat at the labelled growth stage for the partner herbicide. Tankmixes with MCPA LVE at 500 mL/ha must be applied from 5 leaf stage wheat onwards.
Wild radish (<i>Raphanus raphanistrum</i>)	Cotyledon - 4 leaf Up to 15 cm	500 mL + 350 - 500 mL MCPA LVE	
Indian hedge mustard (<i>Sisymbrium orientale</i>)	Cotyledon - 6 leaf Up to 10 cm		
Climbing buckwheat (<i>Fallopia convolvulus</i>)	Cotyledon - 4 leaf Up to 10 cm	500 mL + 500 mL Hotshot* Herbicide	
Milk thistle / Common Sowthistle (<i>Sonchus oleraceus</i>)		500mL + 500 mL Hotshot Herbicide + 500 mL MCPA LVE	

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

HARVEST WITHHOLDING PERIOD

WHEAT: Not required when used as directed.

When using Crusader Herbicide in a tank mix with another product, observe the Harvest Withholding Period of the other product.

STOCKFOOD WITHHOLDING PERIOD

DO NOT GRAZE OR CUT TREATED CROPS FOR STOCK FEED FOR 6 WEEKS AFTER APPLICATION of Crusader Herbicide.

When using Crusader Herbicide in a tank mix with another product, observe whichever Stockfood Withholding Period is the longer.

CROP SAFETY

Yield is normally unaffected by treatment with Crusader Herbicide or tank mixes. However, transient stem shortening and crop yellowing may occur. Symptoms may be worse where wheat is stressed, heavy rain/irrigation follows application, crops are grown in alkaline soil conditions, crop has poor root growth, double overlap of spray has occurred or a combination of any or all the above. Where crop stress occurs, a longer period may be required for recovery, especially if the crop is stressed by root or foliar disease, poor nutrition, water logging, drought or cold stress. In severe cases and seasons where a hot, dry spring occurs, flowering may be delayed and yield may be reduced. Crusader Herbicide has been tested over major commercially grown wheat varieties, but not all of those that may be grown. For information on wheat variety selectivity consult your local reseller or Dow AgroSciences.

GENERAL INSTRUCTIONS

MIXING: Crusader Herbicide is an oil-based concentrate which may show some separation on storage. Roll, shake or invert the container several times to ensure that Crusader Herbicide has completely redispersed before measuring to mix. Crusader Herbicide should be added to the spray tank with simultaneous agitation. If agitation is limited, premix the Crusader Herbicide in a bucket before adding to the main tank. Once diluted correctly, Crusader Herbicide remains in suspension. **If tank mixing with other products, the following order should be followed:**

1. Quarter fill the spray tank, maintaining agitation, then:
2. Add Crusader Herbicide (as described above)
3. Add water to half fill the spray tank
4. Add wettable powders, water dispersible granules or suspension concentrates.
5. Add emulsifiable concentrates.
6. Add BS 1000 when spray tank is half-full.
7. Add water to bring to the final spray volume.

Crusader Herbicide should be mixed and sprayed out within 8 hours.

COMPATIBILITY

Crusader Herbicide is compatible with the following:

Broadleaf Herbicides: Bromoxynil, bromoxynil-MCPA, MCPA LVE, Hotshot Herbicide and Lontrel 750 SG Herbicide.

Adjuvants: Always use BS 1000 at 250 mL/100 L spray volume.

APPLICATION

Boom Spraying: Apply Crusader Herbicide in sufficient water to obtain good coverage. It should be applied by an accurately calibrated ground rig using a water volume of 50 – 100 L/ha. Sprayers should apply a medium quality spray in accordance with ASABE standard S-572.

CLEANING SPRAY EQUIPMENT

After using Crusader 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 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 Crusader Herbicide. After cleaning the tank as above, quarter fill the tank with clean water and add a liquid alkali detergent (e.g. Surf[®], Omo[®], Drive[®]) at 500 mL/100 L water and circulate throughout the system for at least fifteen minutes. 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. Note: Chlorine-based cleaners are NOT recommended.

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.

RESISTANT WEEDS WARNING

GROUP B HERBICIDE

Crusader Herbicide contains a member of the triazolopyrimidine sulfonanilide group of herbicides. The product has the acetolactate synthase (ALS) inhibitor mode of action. For weed resistance management, the product is a Group B herbicide. Some naturally occurring weed biotypes resistant to the product and other 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 B herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, Dow AgroSciences 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.

PRECAUTION

Re-entry Period: Do not allow entry into treated areas until the spray has dried, 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 to drift onto nearby native and other non-target plants or susceptible plants/crops, cropping lands or pastures.

Planting Crops Following Use of Crusader Herbicide in Previous Wheat Crop

Planting crops 'dry' without the minimum rainfall (as stated in the table below) increases the risk of injury to susceptible crops. Susceptible crops include, but are not limited to, those listed in the table below.

Plant-back periods

AREA / STATE	RAIN OR IRRIGATION NEEDED*	PLANT-BACK INTERVAL	CROPS TO BE PLANTED
SA, Sth NSW, Tas, Vic, and WA (Winter dominant rainfall areas) All soils	25 mm rain or more	9 months	Barley, canola, chickpeas, cotton, faba beans, field peas, lentils, lupins, lucerne, maize, medics, oats, ryegrass, sub-clover, sorghum, soybeans, sunflower, vetches, and white clover Note: For all other crops, consult your reseller or local Dow AgroSciences' representative.
Nth NSW and Qld (Summer dominant rainfall areas) Vertosol soils	50 mm or more rain or irrigation	6 months	

For all situations, sufficient rainfall to enable soil wetting for at least one week is essential to enable residue breakdown before planting following crops other than wheat.

*on shallow, duplex or low organic matter soils and/or where rain or irrigation in one fall or over subsequent days is insufficient to thoroughly wet soil to 10 cm for one week or more in the summer to autumn period, extended plant-back times will apply and susceptible crops should not be planted for at least 12 months after application of Crusader Herbicide. Contact Dow AgroSciences, your farm chemical supplier, consultant or local Department of Agriculture for advice.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Crusader Herbicide is highly toxic to algae and aquatic plants. **DO NOT** contaminate streams, rivers or waterways with chemical or used containers.

DO NOT apply under meteorological conditions or from spraying equipment that could be expected to cause spray to drift onto wetlands, natural surface waters, neighbouring properties or other sensitive areas. For ground application, a buffer zone of 5 metres is required between the downwind edge of the boom and the closest edge of waterbodies.

STORAGE AND DISPOSAL

Store in the tightly closed original container in a securely locked place, out of direct sunlight.

DO NOT store near food, feedstuffs, fertilisers or seed.

This container can be recycled if it is clean, dry, free of visible residues and has the **drumMUSTER** logo visible. Triple or pressure rinse containers for disposal. Dispose of rinsate by adding it to the spray tank. Do not dispose of undiluted chemicals on site. Wash outside of the container and the cap. Store cleaned container in a sheltered place with the 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.

If not recycling break, crush or puncture and bury empty packaging in a local authority landfill. If no landfill is available, bury the packaging below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty packaging and product should not be burnt.

SMALL SPILL MANAGEMENT

Wear appropriate clothing whilst cleaning up small spills (see SAFETY DIRECTIONS). Apply absorbent material such as earth, sand, clay granules or cat litter to the spill. Sweep up material and contain in a refuse vessel for disposal. Disposal of the contaminated material must be done in accordance with STATE and/or LOCAL regulations.

SAFETY DIRECTIONS

Harmful if inhaled. May irritate nose and throat. Will irritate the skin. Will damage the eyes. Repeated exposure may cause allergic disorders. Avoid contact with eyes and skin.

When opening the container and preparing the spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and a washable hat, elbow length chemical resistant gloves, goggles and disposable mist face mask covering mouth and nose.

If product on skin, immediately wash area with soap and water. 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, goggles and contaminated clothing.

FIRST AID

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.

MATERIAL SAFETY DATA SHEET

Additional information is listed in the Material Safety Data Sheet for **CRUSADER HERBICIDE** which is available from Dow AgroSciences on request. Call Customer Service Toll Free on 1-800 700 096 or visit www.dowagrosciences.com.au

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EMERGENCY ONLY
DIAL 000
FOR POLICE OR
FIRE BRIGADE

EMERGENCY RESPONSE
(ALL HOURS)
RING FROM ANYWHERE
IN AUSTRALIA
1-800 033 882
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Specimen Label