



orion AGRISCIENCE

DANGER

KEEP OUT OF REACH OF CHILDREN



CrusaderTM

HERBICIDE

A selective herbicide for the control of wild
oats in WHEAT, BARLEY and RYEGRASS
SEED CROPS

Active Ingredient:

200 g/litre of flamprop-M-isopropyl in the form of an emulsifiable concentrate



9 421004 530774

20 Litres

PLEASE READ THE LABEL COMPLETELY BEFORE USE

HAZARD CLASSIFICATIONS:

Aspiration hazard category 1, Eye irritation category 2, Hazardous to the aquatic environment chronic category 2

DANGER: ECOTOXIC

Maybe fatal if swallowed and enters airways. Causes serious eye irritation. Toxic to aquatic life with long lasting effects.

PRECAUTIONS

STORAGE:

Keep out of reach of children. Store in the original, tightly closed container, in a secure area. When stored appropriately this product should show no significant degradation for two years from the date of manufacture. Contact your supplier for further information about the use of product that is older than this.

PERSONAL PROTECTION:

Avoid contact with eyes and skin. Avoid inhalation of vapour or spray mist. When mixing or applying, wear overalls, boots, gloves and eye protection. Do not eat, drink or smoke while using. Remove protective clothing and wash hands and face thoroughly before meals and after work.

DISPOSAL:

Dispose of this product only by using in accordance with this label, or at a suitable landfill. Triple rinse container and add rinsate to the spray tank. Dispose of container to a suitable landfill or agricultural recycling scheme. Do not burn. Do not use container for any other purpose.

ENVIRONMENTAL:

Use this product carefully. Take all reasonable steps to ensure that this product does not cause any significant adverse effects to the environment beyond the application area. Do not apply directly into or onto water. Do not contaminate aquatic environments with product, spray drift or empty container. Do not allow spray drift outside the target area to occur. Collect spillage.

FIRST AID

If medical advice is needed, have product container or label at hand. If swallowed do not induce vomiting. If splashed in eyes, wash out immediately with running water for several minutes. If skin or hair contact occurs, remove contaminated clothing and wash with soap and running water. If inhaled, immediately move to fresh air and rest. Maintain half upright position if breathing is difficult. Call the National Poisons Centre **0800 POISON (0800 764 766)** (24 hrs) or a doctor immediately for advice.

EMERGENCY RESPONSE

In a transport emergency call **111, Police or Fire Brigade**. For specialist advice in an emergency only, call **0800 CHEMCALL (0800 243 6225)** (24 hrs).

SPILLAGE

Exclude non-essential people from the area. Wear protective clothing and prevent material from entering waterways. Absorb spill with inert material such as soil, sand, etc, and place in a waste container. Wash area with water and detergent, and absorb with further inert material. Dispose of safely to a suitable landfill.

SAFETY DATA SHEET

Additional information is provided in the safety data sheet. Freephone **0800 ORIONAS (0800 674 6627)** or visit www.orionagriscience.co.nz

GENERAL INFORMATION

Crusader is a selective herbicide which controls wild oats in wheat, barley and ryegrass seed crops.

DIRECTIONS FOR USE

Apply with well-maintained and calibrated spray equipment.

Crusader must be applied when both the crop and wild oats are actively growing. Good control may not be achieved if wild oats are beyond the 1st node stage of development. The timing of application is critical to good results, as selectivity derives from differences in the growth stage and rate of growth between the crop and wild oats. Applied at the correct stage of crop development, Crusader will kill wild oats, or stunt them to such an extent that they do not compete with the crop. Application at the incorrect growth stage of the crop can result in crop damage.

Where crops are under stress, or are relatively open, control will be less effective, as crop competition is important in getting a good result. Crusader must NOT be used on any cereal crops other than wheat or barley.

APPLICATION METHODS

Crusader can be applied with conventional ground spraying equipment. Uniform coverage is essential. Apply at 200 – 400 litres/ha; use higher rates where the crop canopy is dense. Apply at a nozzle pressure of at least 275 kPa so as to produce a fine penetrating spray.

MIXING

Shake well before use. To ensure mixing pour the correct amount into the partly filled tank and add the remainder of the water while agitating. Agitate thoroughly before and during spraying and before spraying after a stoppage. If tank mixing with other products, add water dispersible formulations such as Tackle™ 750WDG first, and mix thoroughly before adding Crusader.

COMPATIBILITY

Crusader can be tank mixed with most commonly used fungicides. Crusader may be applied with Tackle 750WDG herbicide, provided that the application timing for Crusader is followed. Do NOT apply herbicides containing dicamba within 14 days (before or after) of applying Crusader. If applied with fertilisers, crop scorching may occur. Crusader can be tank mixed with growth regulators such as Amend™ or Cycocel® 750 in wheat ONLY. In barley, plant growth regulators such as Align™ or Terpal® must NOT be tank mixed, but can be applied 5 days after Crusader.

DIRECTIONS FOR USE

CROP	RATE	TIMING OF APPLICATION
Wheat Vigorous, dense, well tillered crop growing under stress free conditions	4 L/ha	Apply when crop is between mid- tillering (Zadoks GS 23), and before the third node (Zadoks GS 33).
Crop growing under unfavourable conditions (eg, water stress), or open crops	6 L/ha	
Barley Vigorous, dense, well tillered crop growing under stress free conditions	4 L/ha	Apply when crop is between mid- tillering (Zadoks GS 23), and before the second node (Zadoks GS 32).
Crop growing under unfavourable conditions (eg, water stress), or open crops	6 L/ha	
Ryegrass Seed Crops Vigorous, rapidly growing crop, with extensive top growth. Wild oats not past early tillering (Zadoks GS 21)	4 L/ha	Grazed Crops: Apply after closing to stock when the ryegrass is 12 – 25 cm high and before the most advanced wild oat tillers have reached second node stage of development (Zadoks GS 32) (usually before the end of October). For rapidly growing vigorous crops with extensive top growth, apply when the ryegrass is 12 cm high. In light, open or weak crops, spray when top growth can provide sufficient competition for the wild oats. This may not occur until the ryegrass is 25 cm high.
Crop growing under unfavourable conditions (eg, water stress), or open crops. Wild oats past early tillering (Zadoks GS 21)	6 L/ha	Un-Grazed Crops: Apply when wild oats are between mid tillering (Zadoks GS 23) and first node stage (Zadoks GS 31), and both the crop and wild oats are actively growing.

RAINFALL

Do NOT apply if rain is expected within 3 hours of spraying.

WITHHOLDING PERIOD

It is an offence for users of this product to cause residues exceeding the relevant MRL in the Food Notice: Maximum Residue Levels for Agricultural Compounds.

Do NOT graze or cut for stockfeed within 6 weeks of application.

RESISTANCE MANAGEMENT

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Crusader contains flumetralin-M-isopropyl, which belongs to the arylaminopropionic acids chemical family. Some naturally occurring weeds may become resistant when excessive use of the same herbicide occurs. To prevent or delay the development of resistance, use in tank mixes and/or rotate use with herbicides with a different mode of action. Consult <http://resistance.nzps.org/index.php> for alternative modes of action and details of resistance management strategies (if any) for the crops listed on the label.

WARRANTY

This formulation is warranted to contain the specified active ingredient within accepted analytical tolerance when packed. The user bears the risk for damage resulting from factors beyond the manufacturer's control. The manufacturer declines all liability for damage resulting from improper storage or use of the product.

Registered pursuant to the ACVM Act 1997, No. P8081

See www.foodsafety.govt.nz for registration conditions.

Approved pursuant to the HSNO Act 1996, No. HSR100061 or HSR100062

See www.epa.govt.nz for approval controls.

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www.orionagriscience.co.nz



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CRUSADER

AGRISCIENCE

Batch No:

Date of manufacture: