



Magister® CS
HERBICIDE

ECOTOXIC KEEP OUT OF REACH OF CHILDREN

Active Ingredient:

Contains 360 g/L clomazone in the form of a capsule suspension

Contents:

1, 5 L



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Pre-emergence herbicide for use against certain broadleaf and grass weeds in Carrots, Peas, Pumpkin, Buttercup squash, Potatoes, Dwarf green beans, Oilseed rape, Fodder beet and certain Fodder, Seed and Vegetable brassicas

Registered pursuant to ACVM Act 1997, No. P007820.

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

Approved pursuant to the HSNO Act 1996, Approval Code HSR007804.

READ LABEL AND LEAFLET BEFORE MIXING AND APPLICATION



HAZARD CLASSIFICATION: 9.1B, 9.2A

APPROVED HANDLER: This product **MUST** be under the personal control of an Approved Handler when it is applied in a wide dispersive manner or used by a commercial contractor.

This product **MUST NOT** be used for any purpose, or in any manner, contrary to this label unless authorised under appropriate legislation.

ECOTOXIC

Toxic to fish and aquatic organisms with long lasting effects. Magister® CS must not be applied directly onto or into water. Avoid contamination of any water supply with product or empty container. Selective herbicide – very toxic to some plant species.

Beware: Apply this product carefully. Spray drift may cause serious damage to other desirable plants

HANDLING PRECAUTIONS

PERSONAL PROTECTION

When mixing or applying, wear protective clothing, gloves and goggles. **DO NOT** eat, drink or smoke while using. Wash hands and face before meals and after work. Wash protective clothing after work.

CLEANING

Flush spray equipment thoroughly with clean water after use.

STORAGE

Store in original container tightly closed and in a locked, dry, cool, well ventilated area, away from feed, seeds and foodstuffs. **DO NOT** store or use near sources of ignition. This product is classified under HSNO as 6.1D, and storage of certain quantities may require bunding and signage. See the HAZNOTE for further information.

DISPOSAL

Triple rinse empty container and add rinsate to the spray tank. Recycle empty container, otherwise crush and bury in a suitable landfill. Dispose of product only by using according to the label, or at an appropriate landfill.

FIRST AID

If swallowed **DO NOT** induce vomiting. For advice, contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor immediately. If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

SPILLAGE

Wear appropriate protective clothing and prevent material from entering waterways. Contain liquid spills and absorb with inert material. Dispose of waste safely in an approved landfill.

RECORD KEEPING

Records of use, as described in NZS 8409 Management of Agrichemicals, must be kept when using 3L or more of Magister® CS within 24 hours.

GENERAL INFORMATION

Magister® CS is a pre-emergence residual herbicide which can be used in Carrots, Peas, Pumpkin, Buttercup squash, Potatoes, Dwarf green beans, Oilseed rape, Fodder beet and certain Fodder, Seed and Vegetable brassicas.

Magister® CS is taken up through the roots and emerging shoots of weed seeds. It acts by inhibition of the biosynthesis of photosynthetic pigments leading to bleaching symptoms on susceptible weed species. Susceptible weeds may emerge but are lacking pigmentation and plant death occurs shortly afterwards.

Magister® CS controls a wide range of annual grass and broadleaf weeds. It has little effective contact action on weeds and must be applied pre-emergent of both the weeds and the crop. Crop plants that have emerged at the time of application may be damaged.

Magister® CS may be tank mixed with other herbicides registered for use on the recommended crops (e.g. Frontier* in Buttercup squash, Dwarf green beans and Brassicas. Also trifluralin in Brassicas and linuron in Beans) to broaden the range of weeds controlled. Observe all label recommendations for both products.

Soil Type: DO NOT use Magister® CS on very light soils (CEC<10). Use the highest rate recommended on heavier soils (CEC >20). On soils with very high CEC values >30,

e.g. peat and heavy clay soils, Magister® CS may be locked onto soil particles (clay and organic matter) reducing efficacy.

Direct-drilled crops should be adequately covered with soil before treatment. If drill slots are open, harrow or roll across them before spraying. Weeds emerging from open drill slots are unaffected by pre-emergence herbicides such as Magister® CS due to lack of direct contact with roots or growing shoots.

Moisture: Moisture is required to activate Magister® CS. On dry soils a minimum of 13 mm of rainfall or irrigation is required for optimum weed control. Under dry conditions on cultivated land, shallow incorporation may improve overall weed control.

Transitory Crop Whitening: Some whitening of treated crops may occur under certain conditions. It is typically seen on the 1st and 2nd true leaves but not on the cotyledons. Plants will generally grow through these symptoms with no carry over effect on vigour or yield, provided plant growth is not stalled by cold wet conditions. **DO NOT USE** in late Autumn/early Winter when declining soil temperatures and poor growing conditions are likely to occur after emergence. Slow growing, stunted crops may exhibit severe whitening and may not recover from treatment.

OFF TARGET WHITENING

Magister® CS can cause whitening of desirable plants either by spray drift or by volatilisation following product dilution or application. The Capsule Suspension formulation reduces, but may not fully prevent this from occurring. The effects may last for a few weeks and plants usually grow out of it with no long term effects. However, all steps should be taken to minimise the Magister® CS Herbicide

likelihood of this whitening occurring.

1. Ensure that when the product is being mixed into the spray tank that it is done away from desirable plants.
2. Use the lowest rate necessary for adequate weed control.
3. Apply only with accurately calibrated equipment.
4. Apply in 150 – 400 L of water per hectare using coarse droplets.
5. **DO NOT** apply to very wet soils or under cold conditions (e.g. autumn, early winter) when conditions are not conducive to crop emergence and when slow crop growth will occur.
6. **DO NOT** spray in winds over 12 kph or in still conditions.
7. Avoid spraying within 100 m of homes and desirable plants.
8. **DO NOT** empty or clean sprayers near homes or sensitive plants.
9. **DO NOT** apply through irrigation systems.
10. Take extra precautions if applying by air. Add a drift control agent e.g. Validate* or LI 700*.

WEEDS CONTROLLED

SUSCEPTIBLE WEEDS*, *1		MODERATELY SUSCEPTIBLE*	RESISTANT
Barnyard grass	Cleavers	Black nightshade	Clovers
Chickweed	Combind	Fathen (if moisture available)	Docks
Henbit	Groundsel	Fumitory	Field pansy
Shepherds' purse	Portulaca	Mallows	Mayweeds
Sowthistle	Speedwells	Redroot	Oxalis
Summer grass		Spurry (Yarr)	
Twin cress		Willow weed	
Wireweed		Yarrow	

* Subject to rate, soil type and adequate moisture to activate Magister® CS

*1 Susceptible weeds will not be controlled if:

1. Emerged before treatment
2. Growing on old root systems
3. They emerge through untreated soil (open drill slots, growing from under soil clods)

Beware: Apply this product carefully. Spray drift may cause serious damage to other desirable plants.

DIRECTIONS FOR USE

It is an offence for users of this product to cause residues exceeding the relevant MRL in the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards.

RECOMMENDATIONS

Apply to a moist, firm seedbed free from clods, before both weeds and crop have emerged. Apply in sufficient water to obtain even coverage of the soil. A contact herbicide (e.g. glyphosate may be added to control emerged weeds.)

MIXING

Fill spray tank to 1/3 full and with agitation running, add chemicals to tank in the following order:-

1. Wettable powders and dispersible granules
2. Suspension concentrates or flowables.
3. Fill tank to ½ full with agitation running. Add Magister® CS.
4. Continue to fill spray tank and add emulsifiable concentrates when near full.
5. Complete filling of spray tank while maintaining agitation. Maintain agitation until spraying is complete.

RESISTANCE MANAGEMENT

APPLY NO MORE THAN 1 APPLICATION PER SEASON.

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VEGETABLE CROPS

CROP	RATE/ha	CRITICAL COMMENTS
Carrots	250 – 330 mL	Apply pre emergence in combination with a suitable carrot herbicide (e.g. Linuron)
Dwarf green beans	660 mL	Apply 660 mL per hectare prior to crop emergence. Use a suitable partner herbicide e.g. Frontier*, at recommended label rates for a broader spectrum of weed control.
Peas	250 – 660 mL	Apply prior to crop emergence. Use a suitable partner herbicide e.g. cyanazine or terbutylazine at recommended label rates for a broader spectrum of weed control. Use the light rate on light soils (silts, loams) and higher rates on heavy soils (clay loams) and soils high in organic matter (peats) and where moderately susceptible weed species are present.
Pumpkins, Buttercup squash	400ml–660 mL	Use the light rate on light soils (silts, loams) and higher rates on heavy soils (clay loams) and soils high in organic matter (peats).
Potatoes	330 mL	Apply in combination with a suitable potato herbicide (e.g. Gesagard* 500FW, Topogard* 500FW, Linuron or Sencor* DF) at its lowest registered rate, after ridging but before crop emergence.
VEGETABLE BRASSICAS*1 Broccoli Brussels Sprouts Cabbage Kohlrabi	250 – 330 mL	Applied in combination with a suitable partner as soon as possible following sowing of the crop and before emergence of both the crop and target weeds or use alone, immediately prior to transplanting. Avoid sprayer overlap. Transient whitening may occur on early foliage but yield will not be affected.

***1 Use of Magister® CS on Chinese cabbage and other vegetable brassicas species not mentioned above is not recommended as crop damage from Magister® CS is likely.**

FORAGE AND SEED BRASSICAS*2 KALE, SWEDE, FORAGE & OIL SEED RAPE, AND SPRING AND SUMMER SOWN TURNIP AND TURNIP RELATED CROPS E.G. PASJA.

SITUATION	RATE	CRITICAL COMMENTS
Direct drilled	250 – 330 mL/ha	To enhance crop establishment and reduce the need for post emergence herbicide treatments, add to the last glyphosate treatment applied before sowing. 350 – 500 mL/ha Monarch* may be added to improve the spectrum of weeds controlled. Moisture after application is critical to activate Magister® CS. Soil type and the availability of moisture will affect the degree and spectrum of weed control. A post emergence herbicide treatment may be required.
Drilled – cultivated ground	250 – 330 mL/ha	Ensure the seedbed is moist, firm and free from clods. Apply after drilling and before crop emergence in combination with suitable partner (e.g. 350 – 500 mL/ha Monarch*). Rainfall or irrigation after treatment will improve weed control.
Pre-plant soil incorporated	400 mL/ha	Apply in mixture with trifluralin and incorporate before drilling. Ensure even incorporation using a Dutch Harrow or discs set to a fine cut. Avoid sprayer overlaps.
Ridged seed bed	400 mL/ ha	Application of pre-emergence herbicides prior to Ridging is common practice, but results in very uneven distribution of the herbicides between and within the ridges. Poor and patchy weed control can result. If this application method is adopted, use of a Cambridge roller to compact the ridge tops is recommended to optimise soil moisture retention and reduce aerated soil conditions. Best practice: Apply pre-emergence after ridging: Apply in combination with a suitable partner (e.g. Frontier*, trifluralin or 350 – 500 mL/ha Monarch*) as soon as possible following ridging of the crop and before crop and weed emergence. Use of a Cambridge roller to compact ridge tops is recommended prior to herbicide application. To improve evenness of coverage, adjust spray boom to ensure that the nozzle overlap is focused at the top of the ridged soil
Surface seeding Forage and Oilseed rape	250 - 330 mL/ha	To reduce post emergence weed pressure Magister® CS may be applied pre-broadcast sowing of seed. Seed may be sown once spray has dried. The addition of glyphosate is recommended to control established growth. Moisture (13 mm) is required to fully activate Magister® CS and to promote germination of seed.

*2 Magister® CS is not recommended for use on Turnip species when Autumn sown and subject to cold slow growing conditions.

Use of Magister® CS on other Brassicas, not mentioned above, is not recommended as crop damage from Magister® CS may occur. **DO NOT** apply to Mustard.

FODDER BEET

SITUATION	RATE	CRITICAL COMMENTS
Fodder beet	150 - 200 mL/ha	Apply pre-emergence of the crop and weeds. Follow up with a post-emergence program. May be tank mixed with ethofumisate or other Pre-emergence herbicides. Use the low rate on light soils. Use the high rate on heavier soils. Refer to ' Soil Type ' notes and precautions above.

CROP ROTATION

Crop failure

Should a crop failure occur:

1. If 660 mL/ha was used, replant only with Cucurbits, and Legumes (Peas, Beans, etc.) within 4 months of application.
2. If 250 - 330 mL/ha used, the labelled crops may be re-planted immediately.

DO NOT re-apply Magister® CS. Plough the land after harvest prior to planting any other crops.

Follow on Crops

When used on light soils, particularly under minimum tillage and dry conditions, Magister® CS may persist in the soil for several months. Deep ploughing is recommended before re-cropping under these circumstances if practical. If not, avoid planting annual grass spp such as Cereals, Sweet corn, Maize and Annual ryegrass. Presence of residues will be evident through whitening on broadleaf weed species. If these symptoms are present sow a crop recommended on this label or sow a small area of the intended crop to test for any negative crop effects before any major planting.

DO NOT re-apply Magister® CS. Plough the land after harvest prior to planting any other crops.

COMPATIBILITY

Magister® CS is compatible with a wide range of herbicides. Before using large quantities, check compatibility of the mixture with a jar test. Observe all label precautions for both products.

NOTICE TO BUYER

FMC warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for purposes stated on such label only when used in accordance with directions under normal use conditions. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use of application, all of which are beyond the control of FMC. To the extent permitted at law FMC shall not be liable for consequential, special or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the buyer.

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Formulated for and distributed by:

FMC New Zealand Limited
6 Clayton Street
Newmarket
Auckland 1023
Freephone: 0800 65 80 80
www.fmccrop.nz

New Zealand Emergency Telephone
Transport Emergency: 0800 387 668
24 hr Emergency Medical Information: 0800 111 174

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