

Application into permanent water - single application: Apply by the SCWIIRT method using a tractor, 4 wheel agricultural motorbike, helicopter or fixed wing aircraft fitted with a Bickley boom. Apply to flood water from pre-sowing, up to the 2 leaf rice stage. Because of the solubility of clomazone and redistribution in water, Magister does not need to be applied right to the edges of the bay.

Ground / helicopter application: Dilute the required amount of Magister in water (5 to 10 Litres/ha) and apply to flooded bay at a distance of 20 to 30 metres between runs. Position dripper nozzles no more than 50 cm from the water surface and maintain pressure at or below 200 kPa (30 PSI or 2 bar).

Fixed wing (Bickley boom) application: Magister must only be applied from a fixed wing aircraft fitted with a Bickley boom which comprises the following:

Two nozzles mounted on droppers, one either side with droppers positioned just outside the first boom hanger (28-35% of wingspan);

Dropper length approximately 40-60 cm or lower below the trailing edge of the wing;

Solid stream nozzles with bore sufficient to apply desired volume at a pressure of 240 to 310 kPa (35 to 45 psi);

Nozzles orientated rearwards and parallel to the airstream;

Check valves (Spraying Systems diaphragm type 12328, 3/4 inch) located behind nozzle to eliminate "trailing" shut off;

Spray at a maximum wheel height of 2m above the field surface.

Swath widths of approximately 25 m are recommended.

Dilute the required amount of Magister in water (10 to 20 Litres/ha) add 41-A spray drift retardant at the rate of 60 g per 100 litres of spray solution and apply to flooded bay. Before commencing aerial application to contoured bays evaluate the layout of the bays to be treated and select the optimum flight pattern to ensure all bays receive the recommended rate of Magister.

WATER MANAGEMENT

Application prior to permanent water in drill and sod sown rice:

Refer to the Critical Comments for more detailed information.

Application to permanent water:

It is essential to prevent water movement for at least 3 days after treatment of Magister. Floodwater must cover all ground to a sufficient depth at application to maintain water cover until water can be added after the 3 day period. Water levels should then be restored and a continuous uniform depth maintained to assist in weed control. For best results when applying by SCWIIRT, lock up bays prior to application to cease water movement.

Do not drain rice water into regional drains within the withholding period, after Magister or Magister tank mix application (minimum 28 days for Taipan*), as defined by the Local Irrigation Authority and/or the NSW Environment Protection Authority or for 10 days, whichever is the greater.

CROP ROTATION RECOMMENDATIONS

Magister treated area may be replanted to any of the specified crops after the interval indicated in the following table. Refer to tank mix partner labels for their specific intervals.

Minimum Recropping Intervals For Magister			
Minimum Recropping INTERVAL (months after application)			
Rate	0	6	9
600 mL/ha or less	Poppies, Potatoes, Cucurbits, Beans, Tobacco, Rice	Barley, Oats, Wheat, Lucerne, Rye grass, Onions, Canola, Sub-clover	All other crops

Tolerance of other crops (grown through to maturity) should be determined on a small scale before sowing into larger areas.

Cover crops however may be planted anytime but stand reductions may occur in some areas. Do not graze cover crops, or harvest them for food or feed.

Replanting: If initial seedlings fail to produce a stand, the crop may be replanted in fields treated with Magister alone. Do not retreat field with a second application of Magister. Do not replant treated fields with any crop at intervals, which are inconsistent with the rotational crop guidelines on this label. When tank mixing observe all application precautions, rotational guidelines and replanting instructions of each product label.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT apply under meteorological conditions or from spray equipment, which could be expected to cause spray drift onto nearby susceptible plants, plants (including residential and other gardens), adjacent crops, crop lands or pastures.

OFF TARGET WHITENING

Magister can cause whitening of sensitive plants (ie. some species of trees, shrubs, ornamentals, agronomic crops, vines and fruits and vegetables) either by spray drift or by volatilisation following product dilution. The effects may last a few weeks and plants usually grow out of it with no long term effect. This phenomenon is unlikely to occur following application into permanent water in rice. However drift could occur following aerial application through the Bickley boom or by ground application when used prior to permanent water. The following general steps should be taken to minimise the likelihood of this whitening occurring: -refer to the specific use patterns for more detailed recommendations.

General:

1. Ensure that when the product is being diluted prior to application that it is done away from desirable plants such as roses, ornamentals and vines.
2. DO NOT empty or clean application equipment near homes or sensitive plants.
3. Remove contaminated clothing before entering areas where sensitive plants exist e.g. homes, nurseries or green houses.
4. Apply only with calibrated equipment.
5. DO NOT apply with a boom spray except when applying as per the **Application prior to permanent water:** situation.

Application prior to permanent water:

1. Do not spray within 100 metres of residential or industrial properties or homes on neighbouring properties.
2. Do not apply by air.
3. Apply only with calibrated equipment.
4. Apply as a broadcast spray using flat fan nozzles producing medium to coarse droplets with pressure not exceeding 250 kPa and with boom height no greater than 60 cm above the target.
5. Apply to dry soils in 100-150 L water per hectare.
6. Do not apply to wet soils and/or wet plants.

Application to permanent water:

1. Apply only with calibrated equipment.
2. Refer to Application section for specific details. Apply as a drip at inundation using a constant head siphon or
3. Apply to flooded bays using the standard SCWIIRT method by tractor, 4 wheel agricultural motorbike or helicopter using 5-10 litres of water per hectare or
4. Apply as an aerial SCWIIRT method by fixed wing aircraft fitted with a Bickley boom, using 10 to 20 litres of water per hectare. For application by fixed-winged aircraft only use the Bickley boom SCWIIRT method.
5. Bays should always be sprayed downwind from susceptible crops or properties or environmentally sensitive areas.
6. Do not spray within 300 m upwind or 50 m downwind of susceptible crops or properties or environmentally sensitive areas.
7. Do not spray right to ends and sides of bays to be treated.
8. Ensure nozzles are shut off before leaving last bay to be treated.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

DO NOT contaminate streams, rivers or waterways with Magister or used container.

DO NOT DRAIN RICE WATER INTO REGIONAL DRAINS WITHIN THE WITHHOLDING PERIOD, AFTER MAGISTER OR MAGISTER TANK MIX APPLICATION (MINIMUM 28 DAYS FOR TAIPAN), AS DEFINED BY THE LOCAL IRRIGATION AUTHORITY AND/OR THE NSW ENVIRONMENT PROTECTION AUTHORITY OR FOR 10 DAYS, WHICHEVER IS THE GREATER.

STORAGE AND DISPOSAL

Do NOT store near (or allow to contact) fertilisers, fungicides or pesticides. Store in the closed, original container in a well ventilated area, as cool as possible. Do not store for prolonged periods in direct sunlight. Store in a locked room or place away from children, animals, food, feed stuffs, seed and fertilisers.

Spillage - In case of spillage, confine and absorb spilled product with absorbent material such a sand, clay or cat litter. Dispose of waste as indicated below or according to Australian Standard 2507 - Storage and Handling of Pesticides. Do NOT allow spilled product to enter sewers, drains, creeks or any other waterways.

The method of disposal of the container depends on the container type. Read the Storage and Disposal instructions on the label that is attached to the container.

SAFETY DIRECTIONS

Harmful if inhaled or swallowed. Will irritate the eyes and skin. Avoid contact with eyes and skin. Do not inhale vapour. When opening the container and preparing spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), elbow length nitrile gloves and face shield or goggles. When using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow length nitrile gloves. If product in eyes, wash it out immediately with water. Wash hands after use. After each day's use, wash gloves, face shield or 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.

WARRANTY

FMC makes no warranty expressed or implied, concerning the use of this product other than that indicated on the label. Except as so warranted the product is sold as is. Buyer and user assume all risk of use and/or handling and/or storage of this material when such use and/or handling and/or storage is contrary to label instructions.

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APVMA Approval No: 52202/1205

In a Transport Emergency Dial 000 Police or Fire Brigade	SPECIALIST ADVICE IN EMERGENCY ONLY 1800 033 111 ALL HOURS – AUSTRALIA WIDE
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POISON

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

ACTIVE CONSTITUENT: 480 g/L CLOMAZONE
SOLVENT: 450 g/L LIQUID HYDROCARBONS

GROUP F HERBICIDE

For the control of certain annual grasses in rice as specified in the DIRECTIONS FOR USE table.

IMPORTANT: READ THE ATTACHED LEAFLET BEFORE USE

FMC Australasia Pty Ltd
Unit 26/8 Metroplex Avenue,
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Tel: 1800 901 939

DIRECTIONS FOR USE

DRILL AND PASTURE SOD SOWN RICE - APPLICATION PRIOR TO PERMANENT WATER

Restraints:

DO NOT apply from the air by helicopter or fixed wing aircraft.
DO NOT use in crops other than rice.
DO NOT apply Stam* within 14 days of applying insecticides to avoid serious damage to rice.
DO NOT apply to the variety Illabong.

CROP	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
Rice Application prior to PERMANENT WATER to drill or sod sown crops.			Application prior to Permanent Water: Rice seed should be sown shallow to encourage rapid emergence which will allow permanent water to be applied earlier. In a sod sown situation the pasture must be promptly controlled before the Magister tank mixes are applied. Apply the tank mixes by boom spray to give uniform and thorough coverage of the soil and weeds - refer to directions in Application section.
	Barnyard grass <i>Echinochloa</i> spp., Silver top grass <i>Leptochloa fusca</i>	500 to 600 mL/ha plus Shirquat* (paraquat 250 g/L) 800 mL/ha	Apply to dry soil after the first flush but prior to crop emergence when grass weeds are up to 1 leaf in size. Use of the higher rate will provide slightly longer residual control of grass weeds but may increase early crop effect. A second flush irrigation or rainfall is required within 5 days to activate the Magister. Permanent water needs to be applied within 2 weeks of application to minimise likelihood of late germinations of barnyard grass. Carefully inspect bays prior to permanent flooding for late germinations of barnyard grass and re-treat with an alternate product if required. Refer to the Shirquat or other paraquat product label before applying this mixture.
	Barnyard grass <i>Echinochloa</i> spp., Silver top grass <i>Leptochloa fusca</i> (suppression only)	500 to 600 mL/ha plus Stam* 7.5 L/ha	Apply prior to permanent water to emerged rice and barnyard grass up to 4 leaf in size. Allow 1 to 5 days between application and flooding by permanent water. To assist weed control fully submerge grass weeds with permanent water for as long as the rice will tolerate before allowing flood levels to abate. Warm day temperatures after application e.g. 25-26°C are required for effective results. Refer to the Stam label before applying this mixture. Transient bleaching, yellowing or leaf burn of rice seedlings can occur following application of this mix. In most cases seedlings usually recover rapidly.

DRILL, SOD SOWN, DRY BROADCAST AND AERIAL SOWN RICE - APPLICATION AT INUNDATION

Restraints:

DO NOT apply by air by helicopter or fixed wing aircraft.
DO NOT apply with a boom spray.
DO NOT use in crops other than rice.
DO NOT apply to the variety Illabong established by the following methods - drill, sod or dry sown prior to permanent flood water.

CROP	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
Rice Application AT INUNDATION to permanent flood water in drill or sod sown, dry sown and aerial sown crops.			Application at Inundation: Optimum control is achieved by ensuring seedbed is free of germinated grasses prior to flooding. Dilute Magister in water and apply as a drip at inundation to permanent flood water using a constant head siphon up to the 4 leaf rice stage. Refer to general instructions for application and water management details.
	Barnyard grass <i>Echinochloa</i> spp., Silver top grass <i>Leptochloa fusca</i> (suppression only)	600 mL/ha	Apply to weeds up to 2 leaf in size (or up to the 4 leaf stage in dry sown and aerial sown crops).
		600 mL/ha	Apply to weeds up to 2 leaf in size.

DRY BROADCAST AND AERIAL SOWN RICE - FLOODED BAY - PRIMER TREATMENT IN A SPLIT APPLICATION

Restraints:

DO NOT apply Magister tank mixes into permanent flood water by helicopter or fixed-winged aircraft fitted with a conventional multi nozzle boom.
DO NOT apply with a boom spray.
DO NOT use this application sequence with Saturn* on long grain rice varieties.
DO NOT use in crops other than rice.
DO NOT apply to the variety Illabong established by dry broadcast sowing prior to permanent flood water.

CROP	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
Rice Application to PERMANENT WATER to crops established by aerial sowing or broadcasted onto soil surface prior to permanent flood.			Application to Permanent Water: To achieve optimum control ensure seedbed is free of germinated grasses prior to flooding. Apply by SCWIIRT method direct to the floodwater of permanently flooded bays by tractor, 4WD motorbike, helicopter or fixed wing aircraft fitted with a Bickley boom. Apply to flood water from pre-sowing up to the 2-leaf rice stage. Lock up bays prior to application to cease water movement. Refer to General Instructions for application and water management details. When applying with the Bickley boom always add 41-A drift retardant at a rate of 60 g per 100 L of spray solution.
	Barnyard grass <i>Echinochloa</i> spp.	250-300 mL/ha + Taipan* 2 L/ha	1st Application - Pre-sowing: Apply to newly flooded bays prior to weed germination. Use the low rate only under situations of low anticipated weed pressure. The higher rate will provide more reliable control where some weeds may have commenced germination or where weed levels are expected to be high. If silver top grass is expected to be a major problem use the full rate (600 mL/ha) of Magister - refer to the "Application into permanent water - single application" section in the general instructions. Refer to the Taipan label for full directions before applying this mixture.
	Silver top grass <i>Leptochloa fusca</i> (suppression only)	Saturn* 2.75-3.75 L/ha or OrDRAM* 2.5-3.75 L/ha	2nd Application - Post-sowing: If following with Saturn refer to the Saturn label for full directions before applying. If using Saturn barnyard grass must be at the 0 to 3 leaf stage at application. Use of the higher rate may give slightly more reliable control of barnyard grass but may also increase crop effect. Use the lower rate of OrDRAM when barnyard grass is at the 0 to 2 leaf stage. Use the higher rate if barnyard grass is a the 1 to 4 leaf stage and silver top grass is up to 2 leaf stage. Refer to the OrDRAM label for full directions before applying this mixture.

DRY BROADCAST AND AERIAL SOWN RICE - FLOODED BAY - SINGLE APPLICATION

Restraints:

DO NOT apply into permanent flood water by helicopter or fixed-winged aircraft fitted with a conventional multi nozzle boom.
DO NOT apply with a boom spray.
DO NOT use in crops other than rice.
DO NOT apply to the variety Illabong established by dry broadcast sowing prior to permanent flood water.

CROP	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
Rice Application to PERMANENT WATER to crops established by aerial sowing or broadcasted onto soil surface prior to permanent flood.			Application to Permanent Water: To achieve optimum control ensure seedbed is free of germinated grasses prior to flooding. Apply by SCWIIRT method direct to the floodwater of permanently flooded bays by tractor, 4WD motorbike, helicopter or fixed wing aircraft fitted with a Bickley boom. Apply to flood water from pre-sowing up to the 2-leaf rice stage. Lock up bays prior to application to cease water movement. Refer to General Instructions for application and water management details. When applying with the Bickley boom always add 41-A drift retardant at a rate of 60 g per 100 L of spray solution.
	Barnyard grass <i>Echinochloa</i> spp.	400 mL/ha 500 mL/ha 600 mL/ha	Apply to weeds up to 4 leaf in size which have germinated since flooding. Apply to small weeds up to 2 leaf in size. Apply when high barnyard grass populations are expected or weeds up to 3 leaf in size. Use the highest rate when a range of weed sizes occur up to 4 leaf in size.
	Silver top grass <i>Leptochloa fusca</i> (suppression only)	500 mL/ha 600 mL/ha	Apply to small weeds up to 2 leaf in size which have germinated since flooding. Apply to small weeds up to 1 leaf in size. Use the higher rate when high silver top populations are expected or weeds are at the 2 leaf stage.

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

WITHHOLDING PERIOD

HARVEST: Not required when used as directed.

GRAZING: Do not graze or cut for stock food for 3 months after application.

GENERAL INSTRUCTIONS

Magister® Herbicide is a short residual, water applied herbicide for the control of certain grass weeds indirect seeded rice crops. Plant uptake of Magister occurs through both the roots and the foliage. The movement of the active constituent clomazone within the plant occurs upward and outwards to the leaf. Clomazone is not downward systemic, nor translocated from leaf to leaf.

SYMPTOMS

Clomazone, the active constituent in Magister, inhibits the biosynthesis of photosynthetic pigments of both chlorophyll and carotenoids. Accordingly the foliage of susceptible plants show signs of chlorosis (whitening or bleaching), followed by necrosis (browning).

RICE SAFETY

Transient bleaching of rice seedlings can occur in some circumstances particularly at the higher rates, in situations where rice seedlings protrude above the water level at time of application, and leaves are directly contacted by the concentrated emulsion or if the rice plant is under stress e.g. slime, salty soils or cold, deep water. In most cases seedlings usually recover rapidly. The variety Illabong is especially susceptible to bleaching. DO NOT apply to the variety Illabong established by the following methods - drill, sod or dry broadcast sown prior to permanent flood water.

In cold conditions, the life of Magister in water can be extended which may increase the likelihood of bleaching in sensitive varieties. Under these conditions use the minimum rate specified for the crop growth stage.

COMPATIBILITY

Magister may be tank mixed with other herbicides to broaden the weed control spectrum compared to products applied alone. Magister is compatible with the rice herbicides molinate, Shirquat* and other products containing paraquat, Stam* (propanil), Saturn*, Londax*, Taipan*, Viper* and the insecticides Dominex® Duo and chlorpyrifos.

RESISTANT WEEDS WARNING

GROUP F HERBICIDE

Magister Herbicide is a member of the Isoxazolidinones group of herbicides. Magister has the inhibitors of carotenoid biosynthesis mode of action. For weed resistance management Magister is a Group F Herbicide.

Some naturally occurring weed biotypes resistant to Magister and other Group F Herbicides may exist through normal genetic variability in any weed population. These resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds will not be controlled by Magister or other Group F Herbicides.

Since the occurrence of resistant weeds is difficult to detect prior to use, FMC Australasia Pty Ltd accepts no liability for any losses that may result from the failure of Magister to control resistant weeds.

MIXING

Add half the required volume of water in spray tank and start agitation. If tank mixing the correct order of addition is Wettable Powders or Water Dispersible Granules first, Liquid Suspensions (ie. Flowables) next, followed by Soluble concentrates and Magister and other Emulsifiable Concentrates last. Add remainder of water to tank and maintain good agitation at all times until spraying is completed.

APPLICATION

Inappropriate application techniques can result in highly visible symptoms of spray drift. Magister can be applied

- prior to permanent water by ground boom spray only, and
- to permanent water by drip applicator at inundation of the permanent flood water, or by SCWIIRT application direct to the water surface of permanently flooded bays, via a properly equipped and calibrated ground sprayer, helicopter or fixed wing aircraft fitted with a Bickley boom.

Refer to the following relevant sections for more detailed information.

Application prior to permanent water: Always apply Magister with either Shirquat* or with Stam* as per the Critical Comments. Apply as a broadcast spray using flat fan nozzles producing medium to coarse droplets with pressure not exceeding 250 kPa and with boom height no greater than 60 cm above the target. To minimise off-target movement use the lowest pressure and boom height that provides uniform coverage using 100-150 litres per hectare. Do not apply to wet soils or wet plants. Do not spray within 100 metres of residential or industrial properties or homes on neighbouring properties.

Application at inundation: For drip treatment, dilute Magister at the ratio of 3 litres to 17 litres of clean tap water and apply this solution at a rate of 4 L/ha. A constant head siphon with a single CP4916 TeeJet flow regulator fitted with a disk orifice plate is recommended to apply the drip treatment into the floodwater at inundation. Refer to a Magister calibration chart to guide selection of the appropriate orifice plate. The preferred method of inundation is to drip into individual bays or by a back fill system utilising a side channel, rather than top filling or flooding through the upper bays.

Application into permanent water - primer treatment in a split application: It is essential that both the 1st and 2nd applications are applied. The 1st (pre-sowing) application suppresses weed germinations allowing the rice to develop to the secondary root stage at which time the 2nd (post-sowing) application is required for the control of emerging weeds, completing the herbicide program. If one application is applied without the other the technique will result in unsatisfactory weed control. For the 1st application follow the application directions in the section **Application into permanent water - single application**.