



MONOLITH[®]

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GROUP 2 HERBICIDE

A highly active herbicide (including a sulfonylurea herbicide) with foliar and some root activity against black-grass, wild oats, rye-grasses, bromes, annual meadow-grass, loose silky-bent, and common chickweed in winter wheat, winter durum wheat, winter triticale, winter rye and spelt wheat.



MAPP 19973

A water dispersible granule formulation containing 45 g/kg mesosulfuron-methyl and 67.5 g/kg propoxycarbazone-sodium.

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work.

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GB85334379f rA2

MONOLITH

UFI: R7V0-M0JV-Q00W-H3SU

A water dispersible granule formulation containing 45 g/kg mesosulfuron-methyl and 67.5 g/kg propoxycarbazone-sodium. Also contains mefenpyr-diethyl.



WARNING

Causes serious eye irritation.

Very toxic to aquatic life with long lasting effects.

Wear protective gloves/protective clothing/eye protection/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

To avoid risks to human health and the environment, comply with the instructions for use.



GB85329243f rA2

IMPORTANT INFORMATION

FOR USE ONLY AS AN AGRICULTURAL HERBICIDE

Crops:	Winter wheat, winter durum wheat, winter triticale, winter rye, winter spelt.
Maximum individual dose:	Winter rye, winter spelt: 0.2 kg/ha. Winter wheat, winter durum wheat, winter triticale: 0.33 kg/ha.
Maximum number of treatments:	One per crop.
Latest time of application:	Before third node detectable (GS 33) of the crop.
Other Specific Restrictions:	This product must only be applied between 1 February in the year of harvest and the specified latest time of application. This product must not be applied via hand-held equipment.

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.

SAFETY PRECAUTIONS

Operator Protection

Engineering control of operator exposure must be used where reasonably practical in addition to the following personal protective equipment:

WEAR SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the concentrate.

WEAR SUITABLE PROTECTIVE GLOVES when handling contaminated surfaces.

However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.

WHEN USING DO NOT EAT, DRINK OR SMOKE

WASH HANDS AND EXPOSED SKIN before eating and drinking and after work.

Environmental Protection

Do not contaminate water with the product or its container.

Extreme care must be taken to avoid spray drift onto non-crop plants outside of the target area.

To protect aquatic organisms respect an unsprayed buffer zone to surface water bodies in line with LERAP requirement.

DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within 5 m of the top of the bank of a static or flowing waterbody, unless a Local Environmental Risk Assessment for Pesticides (LERAP) permits a narrower buffer zone, or within 1 m of the top of a ditch which is dry at the time of application. Aim spray away from water.

This product qualifies for inclusion within the Local Environment Risk Assessment for Pesticides (LERAP) scheme. Before each spraying operation from a horizontal boom sprayer, either a LERAP must be carried out in accordance with CRD published guidance or the statutory buffer zone must be maintained. The results of the LERAP must be recorded and kept available for inspection for three years to any person

entitled to exercise enforcement powers under or in connection with the Food and Environment Protection Act (as amended). (An electronic record will satisfy the requirement for a written record, providing it is similarly available for inspection and can be copied).

Storage and Disposal

KEEP IN ORIGINAL CONTAINER, tightly closed in a safe place.

KEEP OUT OF REACH OF CHILDREN.

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.

WASH OUT CONTAINER THOROUGHLY and dispose of safely.

PROTECT FROM FROST.

DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

RESTRICTIONS

DO NOT use Monolith on crops undersown with grasses, clover or other legumes or any other broad-leaved crop.

Do not use on cereal crops grown for seed as effects on germination have not been established.

Only one “ALS inhibiting” herbicide can be applied to the same crop in sequence or tank mixture with Monolith. Refer to the table under **SEQUENCES & TANK MIXTURES** for details.

Monolith must not be applied to any crop suffering from stress as a result of drought, water-logging, pest or disease attack, nutrient deficiency, soil compaction or other factors reducing crop growth.

Because some non-target crops are sensitive to Monolith, extreme care is required to avoid drift onto plants outside the target area, or onto ponds, waterways or ditches.

Do not apply Monolith when rain is imminent.

Do not apply during periods of frosty weather or where the temperature is near or below freezing.

Store in a safe dry place designated as an agrochemical store.

PROTECT FROM FROST.

WEEDS CONTROLLED

This product contains mesosulfuron-methyl and propoxycarbazone-sodium which are ALS inhibitors, also classified by the Herbicide Resistance Action Committee as 'Group 2'. Use only as part of a resistance management strategy that includes cultural methods of control and

does not use ALS inhibitors as the sole chemical method of grass-weed control. Strains of some annual grasses (e.g. black-grass, wild-oats and Italian rye-grass) have developed resistance to herbicides which may lead to poor control. A strategy for preventing and managing resistance should be adopted. Guidelines have been produced by the Weed Resistance Action Group and copies are available from the AHDB, CropLife UK, your distributor, crop advisor or product manufacturer.

Weed	Maximum Stage Controlled Post-emergence at 0.33 kg/ha	Maximum Stage Controlled Post-emergence at 0.20 kg/ha
Black-grass*	GS 29 (Moderately susceptible)	-
Wild oats	GS 29	-
Annual meadow-grass	-	GS 25
Rye-grasses* (from seed)	GS 29	-
Sterile brome#	GS 33 (Moderately Susceptible)	-

Weed	Maximum Stage Controlled Post-emergence at 0.33 kg/ha	Maximum Stage Controlled Post-emergence at 0.20 kg/ha
Rye brome	GS 30 (Moderately Susceptible)	-
Loose silky-bent	-	GS 29
Common chickweed	GS 18 (8 expanded true leaves) (Moderately susceptible)	GS 16 (6 expanded true leaves) (Moderately susceptible)
Scentless mayweed	GS 18 (8 expanded true leaves)	GS 16 (6 expanded true leaves) (Moderately resistant)
Scented mayweed	GS 18 (8 expanded true leaves) (Moderately resistant)	GS 16 (6 expanded true leaves) (Moderately resistant)

* Levels of control may be reduced in situations where a high level of Enhanced Metabolism Resistance (EMR) is present or where ALS Target Site Resistant (TSR) individuals represent a significant proportion of the population.

Whilst complete control of sterile brome may not be achieved in all situations, growth will be suppressed and seed return reduced – use only as part of a programme of chemical and cultural control measures for the control of sterile brome.

Monolith is readily translocated within the target weed, inhibiting growth within hours of application. The actual time taken for herbicidal symptoms to appear and death varies between weed species, timing of application and weather conditions. In some cases symptoms may not be apparent for up to 4 weeks. Optimum grass weed control will

be obtained when all grass weeds are emerged at spraying. Weeds germinating after application will not be controlled.

Due to the potential for yield loss without prior signs of crop phytotoxicity, avoid use of Monolith to control light infestations of grass weeds.

As Monolith is active primarily via foliar uptake good spray coverage of the target weed is essential for optimal efficacy. For optimal activity, apply when weather conditions promote active weed growth. Monolith controls emerged weeds on all soil types.

Monolith has a moderate residual life in soil under normal conditions. As residual activity is important for optimal activity, avoid application under dry conditions on to dry soil. Residual efficacy will be enhanced where seedbeds are fine and moist. High soil temperatures and cloddy seedbeds may reduce the residual efficacy of Monolith.

The presence of enhanced metabolism herbicide resistant populations of grass weeds may lead to unacceptable levels of control. To reduce the risk of developing resistance or where resistance to ALS-inhibiting herbicides is suspected, applications should be made to young, actively growing weeds.

Key aspects of the Monolith resistance management strategy are:

- ALWAYS follow WRAG guidelines for preventing and managing herbicide resistant grass and broad-leaved weeds.
- DO NOT use Monolith as a stand-alone treatment for black-grass, rye-grass or common chickweed. Use only as part of a resistance management strategy that includes cultural methods of control, and in tank mixture or in sequence with herbicides with non-ALS modes of action.
- IDEALLY apply Monolith as early as possible and before GS 29 of grass weeds.
- DO NOT use Monolith as the sole means of grass weed or broad-leaved weed control in successive crops.
- ALWAYS use grass and broad-leaved weed herbicides with non-ALS modes of action throughout the cropping rotation.
- ALWAYS monitor weed control effectiveness and investigate any odd patches of poor grass or broad-leaved weed control. If unexplained contact your agronomist who may consider a resistance test appropriate.

CROP SPECIFIC INFORMATION

For use on all commercially available varieties of winter wheat, winter durum wheat, winter triticale, winter rye, and winter spelt wheat.

Apply via a horizontal boom sprayer at 0.20 kg/ha or 0.33 kg/ha as appropriate to the crop and the weeds to be controlled (see table).

Apply in 200–300 L/ha as a **FINE to MEDIUM** spray (BCPC category). Use application techniques which ensure good weed coverage and crop penetration, using flat fan nozzles. Ensure that spray swaths do not overlap.

Always use Monolith in mixture with authorised adjuvant Biopower (ADJ: 0617) at a rate of 1 L/ha.

Only one application of Monolith should be made to the crop.

Apply from the one tiller stage (GS 21) of the crop up to second node detectable (GS 32) and no earlier than 1st February in the year of harvest.

SEQUENCES & TANK MIXTURES

Only one “ALS inhibiting” herbicide can be applied to the same crop in sequence or in tank mixture with Monolith.

Monolith may be applied to the same crop in sequence or in tank mixture with one of the following “ALS inhibiting” herbicides where autumn drilled cereals or any spring crop are planned as the following crop in the normal rotation:

Eagle	Chekker	Sekator OD
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These sequences and tank mixtures must only be applied in accordance with label recommendations for every product in the sequence or tank mixture and only if used in conjunction with a robust non-ALS inhibitor autumn herbicide programme.

Aside from those listed above, do not use in sequence or tank mixture with any other ALS inhibitors, such as sulfonylureas.

As part of the Herbicide Resistance Management Strategy for Monolith, do not apply Chekker or Sekator OD in sequence with Monolith for the control of common chickweed in order to avoid increased selection for herbicide resistant individuals.

Do not tank mix with chlorpyrifos. Allow at least 14 days before or after chlorpyrifos treatments.

FOLLOWING CROPS

Winter wheat, winter barley, winter oilseed rape, winter linseed, winter field beans, Italian rye-grass, mustard, lupins and phacelia may be sown in the year of harvest to succeed a cereal crop treated with Monolith. Plough prior to establishing any broad-leaved crop in the autumn, otherwise crop damage may occur. Spray overlaps in the treated cereal crop should be avoided in order to reduce the risk of localised adverse effects on following broad-leaved crops, particularly winter oilseed rape and mustard.

Spring wheat, spring barley, maize, spring oilseed

rape, sugar beet, Italian rye-grass, peas and sunflowers may be drilled in the spring following harvest of the Monolith treated cereal crop. Where Monolith is applied in an approved sequence or tank mixture with other permitted “ALS inhibiting” herbicides, always follow the most restrictive label with regard to following crops.

MIXING

Add the recommended quantity of Monolith to the spray tank half-filled with the required quantity of clean water. Add the remainder of the water with the sprayer agitation system in operation. Maintain agitation during mixing and loading and until spraying is complete. Do not leave the sprayer standing with chemical in it.

To avoid subsequent injury to crops, immediately after spraying thoroughly clean application equipment inside and out. Ensure that all traces of the product are removed. The following recommendations must be followed;

1. Drain spray system completely. Rinse tank, spray boom and nozzles with clean water for several minutes and spray out completely.
2. Half fill the spray tank with clean water and add a liquid sprayer cleaner specifically formulated for sulfonylurea herbicides (e.g. All Clear Extra®) [1 litre for every 200 litres of full spray tank capacity] and continue filling with clean water until sprayer is completely full. Agitate for 15 minutes; spray out cleaning solution through spray nozzles and drain spray system completely.
3. Rinse the tank thoroughly with clean water and flush out through hoses and boom.
4. Nozzles and filters should be removed and cleaned separately using the liquid sprayer cleaner as recommended.

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To access the **Safety Data Sheet** for this product scan the code or use the link below:

www.cropscience.bayer.co.uk/monolithsds

or alternatively contact your supplier

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