



# MONOLITH®

2 kg e

GROUP 2 HERBICIDE

For use only as an agricultural herbicide.

A highly active herbicide (including a sulfonyleurea 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.

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

Safety information

## 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 triple rinsed empty 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.**

PCS No. 05868

For Professional use only

IE85811266c rA1b

## 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 product.

WEAR SUITABLE PROTECTIVE GLOVES when handling contaminated surfaces.

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 (Do not clean application equipment near surface water. Avoid contamination via drains from farmyards and roads).

To protect aquatic organisms respect an unsprayed buffer zone of 5 metres to surface water bodies. Extreme care must be taken to avoid spray drift onto non-crop plants outside of the target area.

### 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.

PROTECT FROM FROST.

RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of safely.

This material and its container must be disposed of in a safe way.



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or alternatively contact your supplier

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Brewery Road, Stillorgan, Co. Dublin A94 H2K7  
Freephone: 1800 818534

**For 24 hour emergency information contact Bayer  
CropScience Ltd. Telephone: 00800 1020 3333**

## READ ALL INSTRUCTIONS CAREFULLY BEFORE USE

Crop	Maximum individual dose	Maximum total dose	Latest time of application
Winter rye, winter spelt	0.2 kg/ha	0.2 kg/ha	Before third node detectable (GS 33) of the crop
Winter wheat, winter durum wheat, winter triticale	0.33 kg/ha	0.33 kg/ha	Before third node detectable (GS 33) of the crop

## 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.

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.

## WEEDS CONTROLLED

This product contains mesosulfuron-methyl and propoxycarbazone-sodium which are ALS inhibitors, also classified by the Herbicide Resistance Action Committee as 'Group B'. 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 Teagasc, your distributor, crop advisor or product manufacturer.

<b>Weed</b>	<b>Maximum Stage Controlled Post-emergence at 0.33 kg/ha</b>	<b>Maximum Stage Controlled Post-emergence at 0.20 kg/ha</b>
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)	-
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)

<b>Weed</b>	<b>Maximum Stage Controlled Post-emergence at 0.33 kg/ha</b>	<b>Maximum Stage Controlled Post-emergence at 0.20 kg/ha</b>
Scentless mayweed	GS 18 (8 expanded true leaves)	GS 16 (6 expanded true leaves) (Moderately susceptible)
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.

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 (PCS No. 92144) 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.

## **FOLLOWING CROPS**

Winter wheat, winter barley, winter oilseed rape, 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 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.

## **COMPATIBILITY**

Monolith may be applied as a tank-mix only with specific products. Contact Bayer – Crop Science Division for compatibility information on specific tank-mixes. Full manufacturer's instructions must be followed for each tank-mix component.

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