



Invert pack
repeatedly and
shake before use!

Hamlet[®]

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Herbicide

A contact and residual herbicide (including two sulfonylurea herbicides) for use as a post-crop emergence treatment for the control of black-grass, wild oats, rye-grasses, meadow-grasses and a wide range of broad-leaved weeds in winter wheat.

MAPP 17370

An oil dispersion formulation containing 7.5 g/L mesosulfuron-methyl (present as 7.8 g/L mesosulfuron-methyl-sodium, equivalent to 7.3 g/L mesosulfuron), 2.5 g/L iodosulfuron-methyl-sodium (equivalent to 2.3 g/L iodosulfuron) and 50 g/L diflufenican.

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

Bayer CropScience Limited,
230 Cambridge Science Park,
Milton Road Cambridge CB4 0WB
Telephone: 01223 226500

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

Safety information

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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.

Contains fatty alcohol ethoxylate – alkyl ether.

May produce an allergic reaction.

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

IMPORTANT INFORMATION FOR USE ONLY AS AN AGRICULTURAL HERBICIDE

Crops:	Winter wheat
Maximum individual dose:	1.5 L/ha
Maximum number of treatments:	One per crop
Latest time of application:	Up to first node detectable stage (GS 31) of the crop
Aquatic buffer zone distance:	5 m

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



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

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PROTECT FROM FROST

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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.

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY with plenty of water and seek medical advice.

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.)

Take extreme care to avoid spray drift onto non-crop plants outside the target area.

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

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 water body, unless a Local Environment 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's published guidance or the statutory buffer zone must be maintained. The results of the LERAP must be recorded and kept available for three years.

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 FEEDINGSTUFFS.

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 Hamlet on crops undersown with grasses, clover or other legumes or any other broad-leaved crop.

Only one "ALS inhibiting" herbicide can be applied to the same crop in sequence or in tank-mixture with Hamlet. Refer to the table under **SEQUENCES & TANK MIXTURES** for details. Hamlet must not be applied to any crop suffering from stress as a result of drought, waterlogging, pest or disease attack, nutrient deficiency, soil compaction or other factors reducing crop growth.

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

Application should not be made to frosted crops. Sharp or severe frosts following application may cause crop scorch from which the crop will normally recover.

Crop effects may be observed following treatment, particularly on spray overlaps and for late season/spring applications. These effects are transitory in nature and will normally have no adverse effect on grain yield. Ensure that spray swaths do not overlap.

WEEDS CONTROLLED

This product contains mesosulfuron-methyl and iodosulfuron-methyl 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 the HGCA, CPA, your distributor, crop advisor or product manufacturer.

Weed	Susceptibility at 1.0 L/ha	Susceptibility at 1.5 L/ha
Black-grass (sensitive)	-	Post-emergence to GS 39
Black-grass (resistant* - EMR)	-	Post-emergence to GS 29
Wild oats	-	Post-emergence to GS 29
Perennial rye-grass (from seed)	-	Post-emergence to GS 31
Italian rye-grass	-	Post-emergence to GS 30
Annual meadow-grass	Post-emergence to GS 23	Post-emergence to GS 31
Rough-stalked meadow-grasses	Post-emergence to GS 23	Post-emergence to GS 31
Common chickweed	Post-emergence to branching stage (10 cm diameter.)	-
Mayweeds	Post-emergence to GS 18 (8 true leaves)	-
Common field speedwell	Post-emergence to GS 16 (6 true leaves)	-

Weed	Susceptibility at 1.0 L/ha	Susceptibility at 1.5 L/ha
Field pansy	Post-emergence to GS 16 (6 true leaves)	-
Common poppy	Post-emergence to GS 16 (6 true leaves). In mixed growth stage populations control of late growth stage plants may be incomplete.	-
Groundsel	Post-emergence to GS 14 (4 true leaves)	-
Red deadnettle	Post-emergence to GS 14 (4 true leaves)	-
Shepherd's purse	Post-emergence to GS 14 (4 true leaves)	-
Charlock	Post-emergence to GS 16 (6 true leaves)	-
Volunteer oilseed rape	Post-emergence to GS 16 (6 true leaves)	-
Cleavers	Moderately Susceptible post-emergence to GS 12 (2nd whorl stage). Useful levels of control can be achieved, but a follow-up treatment with a specific cleaver herbicide may be required in some situations	-

* Situations where Enhanced Metabolism Resistance (EMR) has been confirmed as RR or RRR by a resistance test or where a significant reduction in performance of other herbicides has been noted previously.

For broad leaved weeds, equivalent control to that achieved at the 1.0 L/ha rate will be achieved at the 1.5 L/ha rate.

Due to the risk of resistance development, Hamlet should not be used at the 1.0 L/ha rate where annual grass weeds other than annual meadow-grass and rough-stalked meadow-grass are present.

Hamlet is a highly active herbicide with foliar activity against a range of grasses and broad-leaved weeds. 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. Grass weeds germinating after application will not be controlled.

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

As Hamlet 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. Hamlet controls emerged weeds on all soil types.

Hamlet has a moderate residual life in soil under normal conditions. As residual activity is important for optimal activity, avoid application under very dry conditions on to very 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 Hamlet.

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

Key aspects of the Hamlet resistance management strategy are:

- Always follow WRAG guidelines for preventing and managing herbicide resistant grass and broad-leaved weeds.
- Do not use Hamlet as a stand-alone treatment for black-grass, rye-grass, common chickweed or common poppy. Only use in a tank mixture or sequence with herbicides with non-ALS modes of action for the control of common chickweed or common poppy.
- Ideally apply Hamlet as early as possible and before GS 31 of grass weeds.
- Do not use Hamlet 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 the effectiveness of weed control 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

Winter wheat

Apply via a horizontal boom sprayer at a rate of 1.0 or 1.5 L/ha according to target weed. Apply in 100-300 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 Hamlet in mixture with authorised adjuvant Biopower (ADJ: 0617) at a rate of 1.0 L/ha.

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

For use on all varieties of winter wheat.

Apply from post-emergence of the crop up to first node detectable stage (GS 31).

SEQUENCES & TANK MIXTURES

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

Hamlet may be applied to the same crop in sequence or in tank mixture with one of the following “ALS inhibiting” herbicides:

Alias SX	Finish SX	Omnera LQM
Ally Max SX	Galaxy	Presite SX
Answer SX	Gartrel	Provalia LQM
Avro SX	GF-184	Quantum SX
Barton WG	Gropper SX	Ratio SX
Biplay SX	Harmony M SX	Refine Max SX
Boxer	Hunter	Sekator OD***
Calibre SX	Hussar**	Simba SX

Chekker*	Inka SX	Slalom
Chimera SX	Jubilee SX	Spitfire
Cleancrop Mondial	Lorate	Starane XL
Concert SX	Mozaic SX	Traton SX
Dakota		
DP911 SX		
Eagle		

* Up to 180 g/ha Chekker may be applied with Hamlet ** Up to 50 g/ha Hussar may be applied with Hamlet

*** Up to 100 ml/ha Sekator OD may be applied with Hamlet

These sequences and tank mixtures must only be applied in accordance with label recommendations for every product in the sequence or tank mixture. Aside from those listed above, do not use in sequence or tank mixture with any other ALS inhibitors, such as sulfonylureas, unless specifically permitted on the label for either product.

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

FOLLOWING CROPS and CROP FAILURE

Winter wheat, winter barley and winter oilseed rape may be sown in the year of harvest to succeed a winter wheat crop treated with Hamlet. Spring wheat, spring barley, spring oilseed rape and sugar beet may be drilled in the spring following harvest of the Hamlet treated winter wheat crop.

Prior to drilling winter or spring oilseed rape or sugar beet, plough or cultivate to 15 cm prior to drilling. Occasionally in oilseed rape crops some seedlings may show slight discolouration on the cotyledons. These effects are quickly outgrown and should not affect subsequent growth.

In the event of crop failure for any reason, soil treated with Hamlet can be re-drilled with winter wheat after normal cultivation. Thorough mixing of the soil must take place before drilling. An interval of 6 weeks should elapse between treatment of the failed crop and drilling the replacement crop. Re-drilling can also take place with spring wheat after ploughing when an interval of 12 weeks has elapsed between treatment of the treated failed crop and drilling the replacement crop.

Where Hamlet is applied in sequence or tank mixture with Eagle, Chekker or Sekator OD, only sow winter wheat, winter barley, spring wheat, spring barley and sugar beet as following crops in the normal rotation.

Where Hamlet 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

Shake well before use. Add the recommended quantity of Hamlet 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 damage to crops other than winter wheat it is important that the spray tank, boom, hoses, filters and nozzles are thoroughly washed out to remove all traces of Hamlet immediately after spraying using a proprietary sprayer cleaner (e.g. All Clear Extra) according to the label instructions for that product.

Do not mix any bleach or chlorinating agent with any ammonia-based cleaning agent as toxic gases may be liberated.

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All other featured brand names are acknowledged as being the property of the appropriate manufacturer.

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