

# Shadow®



**MAPP 16804**

**A suspo-emulsion containing 200 g/l dimethenamid-p, 200 g/l metazachlor and 100 g/l quinmerac for use as a residual herbicide for the control of a range of broad-leaved and grass weeds including cleavers, in winter oilseed rape.**

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

## **SAFETY PRECAUTIONS**

### **Operator protection**

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

**WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES** when handling the concentrate or handling contaminated surfaces.

**WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS)** during application.

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

**WASH CONCENTRATE** from skin or eyes immediately.

**WASH HANDS** before meals and after work.

**WHEN USING DO NOT EAT, DRINK OR SMOKE.**

**IF YOU FEEL UNWELL** seek medical advice (show the label if possible).

### **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 to surface water bodies in line with LERAP requirements.

**DO NOT ALLOW DIRECT SPRAY** from horizontal boom sprayers to fall within 5 metres of the top of the bank of a static or flowing water body, unless a Local Environmental Risk Assessment for Pesticides

(LERAP) permits a narrower buffer zone, or within 1 metre from 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 inspection for three years.

**KEEP LIVESTOCK** out of treated areas until poisonous weeds such as ragwort have died and become unpalatable.

### **Storage and disposal**

**KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.**

**KEEP OUT OF REACH OF CHILDREN.**

**DO NOT RE-USE CONTAINER FOR ANY PURPOSE.**

**STORE IN ORIGINAL CONTAINER** tightly closed, in a safe place.

On emptying the container, **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 container safely.

**This label is compliant with the CPA Voluntary Initiative Guidance**

### **Supplied by:**

**BASF plc, 4th and 5th Floors, 2 Stockport Exchange, Railway Road, Stockport SK1 3GG, Telephone: 0161 475 3000**

**Emergency Information (24 hours freephone): 0049 180 227 3112**

**Technical Enquiries: 0845 602 2553 (office hours)**

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**The  
Voluntary  
Initiative**

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A suspo-emulsion containing 200 g/l dimethenamid-p,  
200 g/l metazachlor and 100 g/l quinmerac

## Warning

**May cause an allergic skin reaction.**

**Suspected of causing cancer.**

**Very toxic to aquatic life with long lasting effects.**

Do not handle until all safety precautions have been read and understood.

Avoid breathing vapours.

Wear protective gloves and eye/face protection.

IF ON SKIN (or hair): Wash with plenty of soap and water.

IF exposed or concerned: Call a POISON CENTRE or doctor/physician.

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 2-methylisothiazol-3(2H)-one. 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

<b>CROPS:</b>	Winter oilseed rape
MAXIMUM INDIVIDUAL DOSE:	2.5 l product / ha
MAXIMUM TOTAL DOSE:	2.5 l product / ha / crop
LATEST TIME OF APPLICATION:	Before 7th true leaf stage (GS 17)
Aquatic Buffer Zone	5 metres

#### Other specific restrictions:

Applications shall be limited to a total dose of not more than 1.0 kg metazachlor/ha in a three-year period on the same field.

**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.**

## 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.

Shadow is a residual herbicide that can be used on all varieties of winter oilseed rape for the control of a range of broad leaved and grass weeds.

## Restrictions/Warnings

When Shadow is applied pre-emergence, it is important for crop safety to ensure physical separation of the herbicide from the seed. Ensure that the seed is well covered with soil to a depth of 15 mm. With direct-drilled crops, harrow across the slits to cover the seed before spraying.

Do not disturb the soil after application.

Do not apply to broadcast crops until the crop has attained the two fully expanded cotyledon growth stage.

Shadow is suitable for use on all soil types as defined by Soil Texture (85) System, except sands and very light soils and soils containing more than 10% organic matter.

Do not apply to stony soils; i.e. stones, flints or chalk readily visible on surface. On brashy and stony soils, Shadow may cause some reduction in crop vigour and/or plant stand.

Do not apply to cloddy seedbeds. Seedbeds must have a fine, firm tilth for optimum weed control. Loose or cloddy seedbeds must be consolidated prior to application.

Do not apply when heavy rain is forecast and do not use on waterlogged soil or soils prone to waterlogging. Crop thinning or reductions in crop vigour can occur if there is very wet weather after application. Where a crop check has occurred, this normally grows out after a few weeks and yields are normally unaffected.

Soil moisture is required for effective weed control via root uptake. Residual control may be reduced under prolonged dry conditions.

Weeds germinating from depth may not be controlled.

Do not apply Shadow to crops suffering from stress, which may be caused, for example, by pests, disease, waterlogging, poor seedbed conditions or previous chemical treatment.

Under frosty conditions a transient scorch may occur.

**Extreme care should be taken to avoid damage by drift onto plants outside the target area.**

Care should be taken to avoid overlap of spray swaths.

To reduce the risk of movement of Shadow to water:-

- a. On clay soils, create a fine, consolidated seedbed to slow the downward movement of water.
- b. Do not apply Shadow to dry soil. Moist soils have fewer and smaller cracks.
- c. Do not apply Shadow if heavy rain is forecast, wait until after the event.

## Weed control

Shadow is taken up via cotyledons and roots and takes maximum effect before, or shortly after, weed emergence. Optimum results are obtained from applications made to fine, firm and moist seedbeds.

## Susceptibility of weeds to single applications of Shadow.

	Application pre-emergence of weed 2.5 l/ha	Application post-emergence of weed 2.5 l/ha
	Weed susceptibility rating	Maximum susceptible growth stage of weed
Weed species	Rating	Rating
Black-grass	MS	1 true leaf (MR)
Chickweed, Common	S	2 true lvs
Cleavers	S	2 Whorls
Crane's-bill, Cut-leaved	S	Cotyledon
Crane's-bill, Round-leaved	S	Cotyledon
Crane's-bill, Small-flowered	S	Cotyledon
Dead-nettle, Red	S	Cotyledon (MS)
Fat Hen	S	Pre-em
Forget-me-not, Field	MS	Pre-em
Groundsel, Common	S	Pre-em
Mayweed, Scented	S	Pre-em
Pansy, Field	MR	Pre-em
Poppy, Common	S	Pre-em
Shepherd's-purse	S	2 true leaf (MS)
Sowthistle, Field	S	Pre-em
Speedwell, Common Field	S	2 true lvs
Speedwell, Ivy-leaved	S	Pre-em

S = Susceptible

MS = Moderately Susceptible

MR = Moderately Resistant

R = Resistant

Pre-em = Pre-emergence of weed

## Resistance Management

GROUP	4	15	HERBICIDES
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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 such resistance should be adopted. Guidelines have been produced by the Weed Resistance Action Group (WRAG) and copies are available from the HGCA, CPA, your distributor, crop adviser or product manufacturer.

Repeated use of herbicides with the same mode of action can increase the risk of strains of weeds developing resistance to these compounds, leading to poor control. In order to minimise the risk, a strategy for preventing and managing such resistance should be adopted. Use products with different modes of action and from different chemical groups in sequence or tank-mix, in conjunction with effective cropping rotation and cultivation techniques. In all cases the recommended rate of use should be adhered to. Follow WRAG guidelines.

### **Key elements of the resistance management strategy for Shadow:**

- Always follow WRAG guidelines for preventing and managing herbicide resistant weeds.
- Maximise the use of cultural control measures wherever possible (e.g. crop rotation, ploughing, stale seedbeds, delayed drilling, etc).
- Use tank mixes or sequences of effective herbicides with different modes of action within individual crops, or successive crops.
- For the control of herbicide resistant grass weeds, always use Shadow in sequence with other effective graminicides with different modes of action.
- Monitor fields regularly and investigate the reasons for any poor control.

### **Crop Specific Information**

Shadow can be used on all varieties of winter oilseed rape.

### **Time of application**

Shadow may be applied pre- or post-emergence of the crop but for optimum activity application must be pre-emergence or early post-emergence of the weeds.

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

**Pre-crop emergence** applications:-

- should be made before the crop seed chits, which in optimum conditions may occur within 48 hours of drilling.
- should only be made on medium and heavy soils (as defined by the ADAS Soil Texture (85) System).

DO NOT USE Shadow pre-crop emergence when any of the following conditions apply:-

- When crop has been broadcast.
- The crop seed has started to germinate (i.e. 48 hours after drilling)
- Seed is not covered with 15 mm of soil;
- When heavy rain is forecast;
- Dry, cloddy or open seedbeds;
- Late drilled crops – as a guide these are crops drilled later than the first week in September in Northern England and Scotland and later than mid-September in the rest of the UK;
- Stony soils, i.e. stones, flints or chalk are readily visible on the soil surface.

**Post-crop emergence** applications can be made in the following circumstances:

- When the majority of the crop has two fully expanded cotyledons and up to the sixth true leaf growth stage (GS 16);
- On light, medium and heavy soils (as defined by the ADAS Soil Texture (85) System);
- When seedbed conditions are not ideal for pre-emergence use;
- When the seed is not covered with 15 mm of soil (as with broadcast crops);

- To light, stony, brashy or gravelly soils, particularly if heavy rainfall was forecast for the period following drilling;
- When late-drilled crops are to be treated.

### **Rate of application**

Apply 2.5 litres/hectare Shadow in a recommended water volume of 200 litres of water per hectare.

### Qualified recommendation

Shadow may be applied at 2.5 l/ha in 100 litres of water per hectare however this recommendation has not been supported by effectiveness or crop safety data.

### **Following Crops**

#### **Following crops after normally harvested winter oilseed rape**

Any crop can follow normally harvested winter oilseed rape treated with Shadow. Ploughing is not essential before sowing a following cereal crop, but is required for all other crops.

#### **Re-drilling due to crop failure**

In the event of crop failure, the following crops may be sown after cultivating to a depth of at least 15 cm:

#### **Re-drilling the same autumn:**

#### **Re-drilling the following spring:**

Winter wheat (excluding durum).  
Cereals (excluding durum wheat), spring oilseed rape, peas and field beans.

### **Mixing and Application**

#### **Mixing**

Never prepare more spray solution than is required.

Fill the spray tank three quarters full with water and start the agitation.

To ensure thorough mixing of the product, invert the container several times before opening.

Add the required quantity of Shadow to the spray tank while re-circulating.

Fill up the tank with water and continue agitation until spraying is completed.

On emptying the product container, 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 container safely.

#### **Application**

Shadow should be applied in a recommended water volume of 200 litres/ hectare.

Apply as a MEDIUM spray, as defined by BCPC.

#### **Tank cleaning**

Wash sprayer thoroughly immediately after use, using clean water and following the sprayer cleaning guidance provided by the equipment manufacturer.

## Compatibility

For details of compatibilities contact your distributor, local BASF representative or the BASF Technical Services Hotline: 0044 845 602 2553 or visit our website on [www.agricentre.basf.co.uk](http://www.agricentre.basf.co.uk)

## COMPANY ADVISORY INFORMATION

This section is not part of the Product Label under Regulation (EC) No 1107/2009 and provides additional advice on product use.

### Water protection:

This product contains **metazachlor** and **quinmerac**, plus dimethenamid-p and is therefore included in the “**OSR Herbicides? Think Water**” stewardship campaign.

BASF have developed the **wHen2gO** smart tool for water stewardship. To download wHen2gO please see [www.agricentre.basf.co.uk](http://www.agricentre.basf.co.uk).

Following the guidance of **wHen2gO** will help to reduce the risk to water. Alternatively, the following closed periods for application apply:

- Avoid use of **metazachlor** or **quinmerac** after 30th September and do not use after 15th October.
- In high risk areas (drained fields in Safeguard Zones) do not use **metazachlor** or **quinmerac** after 30th September.

For further information, see [www.agricentre.basf.co.uk](http://www.agricentre.basf.co.uk) and [www.osrherbicides.org.uk](http://www.osrherbicides.org.uk) or telephone BASF on 0845 602 2553



## Trade Mark Acknowledgments

None listed

## The following does not form part of the authorised label text.

With many products there is a general risk of resistance developing to the active ingredients. For this reason a change in activity cannot be ruled out. It is generally impossible to predict with certainty how resistance may develop because there are so many crop and use connected ways of influencing this. We therefore have to exclude liability for damage or loss attributable to any such resistance that may develop. To help minimise any loss in activity the BASF recommended rate should in all events be adhered to.

Numerous, particularly regional or regionally attributable, factors can influence the activity of the product. Examples include weather and soil conditions, crop plant varieties, crop rotation, treatment times, application amounts, admixture with other products, appearance of organisms resistant to active ingredients and spraying techniques. Under particular conditions a change in activity or damage to plants cannot be ruled out. The manufacturer or supplier is therefore unable to accept any liability in such circumstances. All goods supplied by us are of high grade and we believe them to be suitable, but as we cannot exercise control over their mixing or use or the weather conditions during and after

application, which may affect the performance of the material, all conditions and warranties, statutory or otherwise, as to the quality or fitness for any purpose of our goods are excluded and no responsibility will be accepted by us for any damage or injury whatsoever arising from their storage, handling, application or use; but nothing should be deemed to exclude or restrict any liability upon us which cannot be excluded or restricted under the provisions of the Unfair Contract Terms Act 1977 or any similar applicable law.

## **Section 6 of the Health and Safety at Work Act**

### **Additional Product Safety Information**

The product label provides information on a specific pesticidal use of the product; do not use otherwise, unless you have assessed any potential hazard involved, the safety measures required and that the particular use has “off-label” approval or is otherwise permitted under the Plant Protection Product Regulations (EC) No 1107/2009.

The information on this label is based on the best available information including data from test results.

### **Safety Data Sheet**

To access the Safety Data Sheet for this product scan the QR code or use the weblink below:



[agricentre.basf.co.uk/Shadow/MSDS](http://agricentre.basf.co.uk/Shadow/MSDS)

Alternatively, contact your supplier.



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