

# FLUDUAL

A suspension concentrate formulation containing 400 g/l (32.2% w/w) flufenacet and 100 g/l (8.0% w/w) diflufenican.  
A contact and residual herbicide for pre- and post-emergence use against a range of broad-leaved weeds and annual grasses in winter wheat and winter barley.

## FOR PROFESSIONAL USE ONLY

A suspension concentrate formulation containing 400 g/l (32.2% w/w) flufenacet and 100 g/l (8.0% w/w) diflufenican.

### Warning

#### Harmful if swallowed.

May cause an allergic skin reaction.

May cause damage to organs (nervous system) through prolonged or repeated exposure.

Very toxic to aquatic life with long-lasting effects.

Contains flufenacet and 5-chloro-2-methyl-isothiazol-3-one/2-methyl-isothiazol-3-one. May produce an allergic reaction.

If exposed or if you feel unwell: 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.

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



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



**MADE IN  
BRITAIN**

Scan here for MSDS or visit  
[www.hockleyagro.co.uk](http://www.hockleyagro.co.uk)

#### Authorisation Holder:

JT Agro Limited, 126-134, Baker Street, London, UK.  
W1U 6UE

Tel: 01628 421890 Email: [info@jtagro-cropthetics.com](mailto:info@jtagro-cropthetics.com)

#### Marketing Company:

Hockley Agro UK Limited, 3 Longstone Road,  
Ashbrook Office Park, Manchester, UK. M22 5LB.

Tel: 0161 209 7400 Email: [info@hockleyagro.co.uk](mailto:info@hockleyagro.co.uk)

**Flufenacet 400 g/l +  
Diflufenican 100 g/l  
MAPP 18554**

**HERBICIDE**

**5L e**



**Hockley  
Agro UK**

PROTECT FROM FROST. SHAKE WELL BEFORE USE

PEEL BACK FOR DIRECTIONS FOR USE LEAFLET

Peel  
here

**This leaflet/booklet is part of the approved label.**

For advice on medical emergencies, fires or major spills, telephone the National Chemical Emergency Centre on 01865 407333

**IMPORTANT INFORMATION**

FOR PROFESSIONAL USE ONLY AS AN AGRICULTURAL HERBICIDE

<b>Crops/situations</b>	<b>Maximum individual dose (litres product/ha)</b>	<b>Maximum number of applications (per crop)</b>	<b>Latest time of application</b>
Wheat (winter)	0.6	1	Before 31st December in the year of planting and before third tiller stage.
Barley (winter)	0.6	1	Before 31st December in the year of planting and before fourth tiller stage.

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

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 GLOVES when handling the concentrate or contaminated surfaces.

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

WHEN USING DO NOT EAT, DRINK OR SMOKE.

IF YOU FEEL UNWELL, seek medical advice immediately (show the label where 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 or roads.

To protect aquatic organisms, respect an unsprayed buffer zone to surface waterbodies in line with Local Environmental Risk Assessment for Pesticides (LERAP) requirements.

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

DO NOT RE-USE CONTAINER for any purpose. KEEP AWAY FROM FOOD, DRINK AND FEEDSTUFFS. KEEP OUT OF REACH OF CHILDREN.

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

WASH OUT CONTAINER THOROUGHLY, empty washings in to spray tank 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 AND WARNINGS**

DO NOT treat undersown cereals or those due to be undersown.

Avoid treating crops suffering from stress as a result of drought, waterlogging, grazing, pests or disease attack, nutrient deficiency, soil compaction or other factors reducing crop growth.

Adverse crop effect (paling, reduction in vigour) may occur when there is very wet weather before and after application, particularly on crops grown on light free-draining soils or where soils become waterlogged. These effects are typically transitory in nature and will have no adverse effect on crop yield in most cases.

DO NOT use on waterlogged soils or soils prone to waterlogging.

DO NOT use on sands or very light soils (ADAS 85 classification) or very stony or gravelly soils, as there is a risk of crop damage.

Shallow drilled crops must only be treated post-emergence.

DO NOT treat broadcast crops as uncovered seed may be damaged.

DO NOT soil incorporate.

Avoid spraying during periods of prolonged or severe frosts as sharp or severe frosts following application may cause transitory discoloration or scorch (from which the crop will normally recover).

DO NOT use on soils containing more than 10% organic matter.

DO NOT disturb the soil after application (e.g. by harrowing or rolling).

## **WEEDS CONTROLLED**

Strains of some annual grasses (e.g. black-grass, wild oats and Italian ryegrass) 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 advisor or product manufacturer.

## Key aspects of the FLUDUAL Resistance

### Management Strategy are:

Always follow WRAG guidelines for preventing and managing herbicide resistant weeds.

DO NOT use FLUDUAL as a stand-alone treatment for black-grass control. Use only in tank-mix or sequence with effective herbicides with alternative modes of action.

DO NOT use FLUDUAL as the sole means of grassweed or broad-leaved weed control in successive crops.

ALWAYS use grass and broad-leaved weed herbicides with alternative modes of action throughout the cropping rotation.

ALWAYS monitor weed control effectiveness and investigate any odd patches of poor grassweed or broad-leaved weed control. (If unexplained, contact your agronomist who may consider a resistance test appropriate.)

## **WEED SUSCEPTIBILITY at 0.6 l/ha in winter wheat and winter barley**

### **Annual meadow-grass**

Susceptible pre- and post-emergence up to and including GS 13, 21 (3 leaf and 1 tiller stage).

### **Black-grass**

Moderately susceptible pre- and post-emergence up to and including GS 13 but before GS 21 (3 leaf stage but before tillering has commenced).

### **Cleavers**

Moderately resistant pre- and post-emergence up to and including GS 11 (1 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.

### **Common chickweed**

Susceptible pre- and post-emergence up to the early branching stage (5 cm).

### **Common field-speedwell**

Susceptible pre- and post-emergence up to and including GS 14 (4 leaf stage).

### **Field forget-me-not**

Susceptible pre-emergence.

### **Field pansy**

Susceptible pre- and post-emergence up to and including GS 14 (4 leaf stage).

### **Groundsel**

Susceptible pre-emergence.

### **Ivy-leaved speedwell**

Moderately resistant pre-emergence.

Susceptible post-emergence up to and including GS 12 (2 leaf stage).

### **Mayweeds**

Susceptible pre- and post-emergence up to and including GS 12 (2 leaf stage).

### **Red dead-nettle**

Susceptible pre-emergence.

A subsequent sequential application of 0.3 l/ha FLUDUAL may provide a useful contribution to the residual control of black-grass and annual meadow-grass in winter wheat and winter barley, particularly in situations where black-grass or annual meadow-grass germination is protracted and emergence after application is anticipated, and when used as part of a grassweed management programme.

Established perennial grasses and broad-leaved weeds growing from rootstocks will not be controlled by FLUDUAL. Speed of activity can be slow and is dependent on temperature and growing conditions. Activity can be slow under cool conditions and the final level of weed control may take some time to appear. Some soil moisture is required for FLUDUAL to be activated. Moist soil at and after application is required to give the best results. Best results will be obtained if rain falls within 7 days of application. Residual control may be reduced under prolonged dry conditions.

### **CROP SPECIFIC INFORMATION AND RATES OF USE**

Good weed control depends on burying any trash or straw before or during seedbed preparation.

Seedbeds must have a firm, fine tilth. Loose or cloddy seed beds must be consolidated otherwise crop damage may result due to inadequate seed cover.

For pre-emergence treatments, seed should be covered with a minimum of 32 mm of settled soil. Apply via a horizontal boom sprayer. Apply using 200-400 litres of water per hectare as a MEDIUM spray (BCPC category). Use the higher volume where crop or weed foliage is dense. A spray pressure of at least 2 bar is advised. Good, even spray coverage of soil and weeds is essential. Ensure that spray swaths do not overlap. To prevent damage, care must be taken to avoid drift on to neighbouring crops.

#### **Winter wheat (all varieties)**

Apply pre- or post-emergence up to 31st December in the year of planting and before the third tiller stage.

#### **Winter barley (all varieties)**

Apply pre- or post-emergence up to 31st December in the year of planting and before the fourth tiller stage.

### **FOLLOWING CROPS AND CROP FAILURE**

Plough or cultivate to at least 15cm before planting following crops of oilseed rape, field beans and edible brassicae. Ensure thorough soil mixing before planting. Plough to at least 15 cm before planting peas, sugar beet, carrots and onions. Ensure thorough soil mixing before planting. Wheat, barley or potatoes can be drilled without any special cultivations. In the event of crop failure, for any reason, plough to at least 15 cm and sow only wheat, barley or potatoes. An interval of 12 weeks should elapse between treatment and subsequent sowing of spring wheat and spring barley. Where FLUDUAL and other products containing diflufenican are applied to successive cereal crops, levels of diflufenican will build up in the soil. Ploughing or cultivation, with complete inversion of the furrow, must take place before planting any following non-cereal crop, except potatoes. Even where ploughing or cultivation is carried out there may still be a risk of damage to following crops of onions, leek and related species, or clover.

As a precaution, users who rent out their land to growers of these crops should not use diflufenican-containing products in successive years before renting out the land.

#### **MIXING AND SPRAYING**

Shake the container well before use. Half fill the spray tank with clean water and add the required amount of FLUDUAL. Wash out the container and add the washings to the spray solution, before topping up with clean water. Maintain continuous agitation of spray solution during mixing and loading and until spraying is complete. Do not leave the sprayer filled with the spray solution standing for long periods. Wash out the sprayer thoroughly after use using a wetting agent or proprietary tank cleaner with two rinses.

#### **COMPATIBILITY**

Contact Hockley Agro UK Ltd. for compatibility information on specific tank-mixes. Full manufacturer's instructions must be followed for each tank-mix component.

#### **DISCLAIMER/CONDITIONS OF SUPPLY**

The specified properties of our products and the mode of application stated on this label have been established on the basis of research and experience. All products conform to specification at the time of delivery but, as we exercise no control over their subsequent storage, handling, mixing or use or the weather conditions before, during, and after application, all of which may affect the performance of the products, no responsibility or liability will be accepted by us or our re-sellers for any failure in performance, damage or injury to person or property whatsoever arising from the storage, handling, application or use of the products. These conditions cannot be varied by our staff or agents whether or not they supervise or assist in or make recommendations concerning the use of such products. We recommend you contact your dealer to request advice on the suitability of this product for any new varieties not listed on this label.

#### **Authorisation Holder:**

JT Agro Ltd 126-134, Baker Street, London W1U 6UE  
Telephone: 01628 421890  
Email: [info@jtagro-cropthetics.com](mailto:info@jtagro-cropthetics.com)

#### **Marketing Company:**

Hockley Agro UK Limited, 3 Longstone Road,  
Ashbrook Office Park, Manchester, UK. M22 5LB.  
Tel: 0161 209 7400 Email: [info@hockleyagro.co.uk](mailto:info@hockleyagro.co.uk)  
[www.hockleyagro.co.uk](http://www.hockleyagro.co.uk)