



# Whorl™

Arylex™ active

**HERBICIDE**

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**GROUP 4 HERBICIDES**

**Product Registration Number: MAPP No. 17819**

An EC (Emulsifiable Concentrate) containing 280 g/L fluroxypyr and 12.5 g/L of halauxifen-methyl and 12 g/L of cloquintocet-mexyl (safener).

Arylex™ is the commonly used name of halauxifen-methyl active substance.

A post-emergence herbicide for use on a variety of winter cereals (wheat, durum wheat, spelt, barley, rye, triticale, oats and these crops under sown with grass) and spring cereals (wheat, durum wheat, barley, rye, triticale, spelt and these crops under sown with grass) for the control of a wide range of broad leaved weeds.

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

**READ DIRECTIONS FOR USE ON ATTACHED LEAFLET  
PROTECT FROM FROST  
SHAKE WELL BEFORE USE**

## IMPORTANT INFORMATION

FOR USE ONLY AS A PROFESSIONAL HERBICIDE

**Crops :**

Spring wheat, spring wheat (under sown with grass), spring durum wheat, spring durum wheat (under sown with grass), spring barley, spring barley (under sown with grass), spring rye, spring rye (under sown with grass), spring triticale, spring triticale (under sown with grass), spring spelt, spring spelt (under sown with grass)  
Winter wheat, winter wheat (under sown with grass), durum wheat, durum wheat (under sown with grass), winter barley, winter barley (under sown with grass), winter rye, winter rye (under sown with grass), winter triticale, winter triticale (under sown with grass), winter spelt, winter spelt (under sown with grass)  
Winter oat and winter oat under sown with grass

**Maximum Individual Dose:**

**Maximum Number of Applications:**

**Latest Time of Application:**

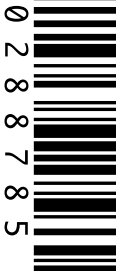
**Aquatic Buffer Zone Distance:**

**Other Specific Restrictions:**

} Full details are given in the Important  
} Information area on the attached leaflet.

**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.**

Non-printable  
area



2411

**NET CONTENTS : 5 LITRES e**

**Blank area for in-house print of  
2D data matrix code**

**Whorl™**

Contains Cloquintocet-mexyl: Reaction mass of N,N-dimethyldecan-1-amide and N,N-dimethyloctanamide, 2-Ethylhexan-1-ol

**UFI: W1T7-D064-C00N-EVH4**



### **Warning**

**May cause an allergic skin reaction**

**Causes serious eye irritation**

**May cause respiratory irritation**

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

IF ON SKIN: Wash with plenty of water.

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

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

If eye irritation persists: Get medical advice / attention.

Take off contaminated clothing and wash it before reuse.

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.**

**Non-printed area on page 2 ONLY  
(on the back of 2D code area printed  
on the front page)**

# 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), 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.

**DO NOT BREATHE SPRAY.**

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

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

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

## Environmental protection:

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. Spray from hand-held sprayers must not be allowed to fall within 1m of the top of the bank of a static or flowing waterbody.

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.

Spray must be aimed away from water.

**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)

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.

**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.

**DO NOT RE-USE CONTAINER** for any purpose.

This label is compliant with  
the CPA Voluntary Initiative Guidance.



# 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.

IMPORTANT INFORMATION				
FOR USE ONLY AS A PROFESSIONAL HERBICIDE				
Crops	Maximum Individual Dose	Maximum Number of Applications (per crop)	Latest Time of Application	Aquatic Buffer Zone Distance
Spring wheat, spring wheat (under sown with grass), spring durum wheat, spring durum wheat (under sown with grass), spring barley, spring barley (under sown with grass), spring rye, spring rye (under sown with grass), spring triticale, spring triticale (under sown with grass), spring spelt, spring spelt (under sown with grass)	0.5 litre product per hectare	1	GS 45 (flag leaf sheath swollen) and before June 30 <sup>th</sup>	5 metres
Winter oat and winter oat under sown with grass	0.25 litre product per hectare	1	GS 32 (second node visible) and before 31 <sup>st</sup> May	5 metres
Winter wheat, winter wheat (under sown with grass), durum wheat, durum wheat (under sown with grass), winter barley, winter barley (under sown with grass), winter rye, winter rye (under sown with grass), winter triticale, winter triticale (under sown with grass), winter spelt, winter spelt (under sown with grass)	0.5 litre product per hectare	1	GS 45 (flag leaf sheath swollen) and before June 30 <sup>th</sup>	5 metres
<b>Other Specific Restrictions:</b> <ol style="list-style-type: none"> <li>The total amount of halauxifen-methyl applied to a winter cereal must not exceed 14.04 g/ha per season, with a maximum of 7.8 g/ha between first leaf unfolded (GS 11) and 31<sup>st</sup> December and a maximum of 6.24 g/ha between 1<sup>st</sup> January and flag leaf swollen (GS 45).</li> <li>There must be a minimum interval of 3 months between applications of products which contain halauxifen-methyl.</li> <li>WHORL must not be applied before 1<sup>st</sup> February in winter cereals (including undersown with grass) or before 1<sup>st</sup> March in spring cereals (including undersown with grass).</li> <li>Do NOT use WHORL on spring oats.</li> </ol> <p><b>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.</b></p>				

## RESTRICTIONS

DO NOT treat crops under stress. Stress can be caused by many factors including frost, drought, water logging, trace element deficiency, disease and pest attack etc. WHORL can sometimes induce slight and transient (2-3 weeks) crop yellowing or growth inhibition. This has no impact on yield and grain quality.

DO NOT apply to crops containing or under sown with clover or any legume containing mixtures.

DO NOT roll or harrow 7 days before or after application.

Avoid spray drift onto non-target crops (see Adjacent Crops section below).

## WEEDS CONTROLLED

WHORL is a post-emergence herbicide for the control of the following broad-leaved weeds in winter and spring cereals. WHORL is mainly absorbed through the foliage of the target weeds.

### Application rates and timing for spring applications to winter cereals:

Weed species	Rate L/ha	Maximum growth stage controlled	Susceptibility
Common Shepherd's purse	0.5	Full flowering up to 15 cm diameter	S
Common fumitory	0.25	Up to 20 cm height	S
Cleavers	0.375	Full flowering up to 40 cm height	S
Cleavers	0.5	Beginning of flowering Up to 90 cm	S
Common hemp nettle	0.5	Up to 10 cm height	S
Small flowered cranesbill	0.25	Up to 10 cm height	S
Red dead-nettle	0.25	Full flowering up to 20 cm height	S
Common poppy	0.5	Up to 10 cm diameter	S
Common chickweed	0.5	Full flowering 25 cm height	S

### Application rates and timing for spring applications to spring cereals:

Weed species	Rate L/ha	Maximum growth stage controlled	Susceptibility
Common fumitory	0.25	6 true leaf stage up to 10 cm height	S
Cleavers	0.25	Up to 40 cm height, before flowering	S
Cleavers	0.375	First flowers visible up to 40 cm	S
Fat-hen	0.375	Up to 25 cm height	S
Red dead-nettle	0.25	First flower petals visible Up to 10 cm height	S
Black bindweed	0.5	Up to 15 cm height	S
Common chickweed	0.5	Up to 15 cm diameter	S

For best results apply WHORL to young weeds which will respond quicker when treated at early stages. Vigorous crop competition enhances control of the difficult to control weeds.

## WEED RESISTANCE

Product	Type	Active	HRAC code
WHORL	Herbicide	fluroxypyr-meptyl	4
	Herbicide	halauxifen-methyl	4

WHORL contains the active ingredients halauxifen-methyl (an arylpicolinate herbicide) and fluroxypyr-meptyl, both of which are members of the pyridine-carboxylic acid family of synthetic auxins, part of Group 4 according to HRAC classification.

To minimize the risk of resistance developing, the following precautions are advised as part of a resistance management strategy.

1. Use rate to maximise control of high risk / difficult to control weed species.
2. Follow label statements concerning rates and application timing.
3. Use WHORL only once per crop season.
4. Consider the use of cultural control methods where possible.
5. Do not over rely on a single herbicide mode of action.

## CROP SPECIFIC INFORMATION

WHORL can be used on a variety of winter cereals (wheat, durum wheat, spelt, barley, rye, triticale and oats) and spring cereals (wheat, durum wheat, barley, spelt, triticale and rye) for the control of a range of broad leaf weed species.

WHORL can be used on a variety of winter cereals (wheat, durum wheat, spelt, barley, rye, triticale and oats) and spring cereals (wheat, durum wheat, barley, spelt, triticale and rye) under sown with grass for the control of a range of broad leaf weed species.

WHORL can be used cereals grown for seed and malting barley.

## TIMING

The ideal timing for application is when the weeds are small and actively growing. However, some highly susceptible species can be controlled at advanced growth stages for late treatments (e.g. Cleavers and Red Dead-Nettle).

### Winter sown cereals (wheat, barley, rye, triticale, durum wheat, spelt)

WHORL can be applied from 1<sup>st</sup> February when the crop is at least GS 13 (three leaves unfolded) up to GS 45 (flag leaf sheath swollen). Latest calendar date for application is 30<sup>th</sup> June.

### Winter oats

WHORL can be applied from 1<sup>st</sup> February when the crop is at least GS 13 (three leaves unfolded) up to GS 32 (second node visible). Latest calendar date for application is 31<sup>st</sup> May.

### Spring sown cereals (wheat, barley, rye, triticale, durum wheat, spelt)

WHORL can be applied from 1<sup>st</sup> March when the crop is at least GS13 (three leaves unfolded) up to GS45 (flag leaf sheath swollen). The latest calendar date for application is 30<sup>th</sup> June.

### **Undersown cereal crops**

WHORL may be applied to wheat, barley, winter oats, rye, durum wheat, spelt and triticale crops undersown with grass when the cereal crops are at the growth stages stated above. Application must only be made after the undersown grass has 5 leaves unfolded (GS 15).

### **RATES OF USE**

Apply 0.25 to 0.5 L/ha of WHORL in 100 to 400 litres of water per hectare, using spray equipment to give good even coverage of the crop.

The lowest water volume should only be used in open crops on small weeds. On later applications where the crop is dense, the spray volume should be increased to 200-400 litres water per hectare. The minimum recommended pressure is 2 to 3 bars.

Apply a maximum rate of 0.25 L/ha of WHORL on winter oats and winter oats under sown with grass.

For undersown cereal crops, it is recommended to use a minimum spray volume of 150 litres of water per hectare.

### **SOIL**

WHORL can be used to any soil type.

### **WEATHER CONDITIONS**

WHORL can be used in cold or warm (from 2 to 25 °C), humid or dry conditions. In severe drought conditions there can be a slight reduction in efficacy.

### **RAINFASTNESS**

WHORL is rainfast one hour after application.

### **FOLLOWING CROPS**

After an application of WHORL at 0.5 L/ha up to GS 45, the following crops may be sown in the summer/autumn of the same year after the cereal harvest: white mustard, pea, broad bean, field beans, winter oilseed rape, phacelia, ryegrass, winter sown cereals (wheat, barley, rye, triticale, oats, spelt), vegetable brassica as transplants. Ploughing is recommended prior to drilling maize, alfalfa, soybean and clover.

All crops can be sown in the spring following an application of WHORL at 0.5 L/ha up to GS 45 in the previous calendar year.

### **CROP FAILURE**

In the event of a cereal crop failure after the crop has been treated with WHORL, consider all herbicides used on the treated field before deciding which new crop to sow.

In case of a crop failure after a spring application of WHORL:

- 1 month after application with no cultivation: Spring wheat, Spring barley, Spring oats, and Ryegrass may be sown.
- 2 months after application and after ploughing: Maize, Spring oilseed rape, Pea, Broad bean and Field bean may be sown.
- 3 months after application: Sorghum may be sown.

## ADJACENT CROPS

Apply only with a boom sprayer and use suitable nozzles for herbicides. Use a spray pressure as low as possible and a low height with respect to the treated vegetation, while ensuring the good spray distribution.

Do not spray in windy weather. Wind speed should be less than or equal to 3 on the Beaufort scale (i.e a maximum of 19 km/hour). Do not spray if the temperature exceeds 25°C in the shade.

Avoid spray drift onto non-target crops.

Particular care should be taken to avoid spray drift onto susceptible crops e.g. vines, orchards, sunflower, legumes, vegetable crops, ornamentals, flax, sugar beet, potatoes etc.

WHORL is of low volatility and is therefore not subject to vapour drift.

The use of low drift nozzles is recommended.

## MIXING AND SPRAYING

### MIXING

Half fill the spray tank with clean water and start the agitation. SHAKE THE CONTAINER WELL before use and add the required amount of product. Rinse any empty containers thoroughly and add rinsings to the spray tank. Add the remainder of the water and continue agitation until spraying is completed. Spray solution MUST be used on the day of mixing and must NOT be left overnight.

### Application method

Apply WHORL only with a boom sprayer. Use a spray pressure as low as possible and a boom height adapted to the nozzle type and the sprayed vegetation, while ensuring the good spray distribution. Use nozzles suitable for herbicide applications. Nozzle type does not influence efficacy and WHORL can be applied using standard and low drift nozzles.

Boom height should be adjusted to ensure even coverage of the crop, particularly at later growth stages. The correct height is one at which the spray from alternate nozzles meets just above the crop.

### Spray quality

Apply WHORL as a MEDIUM spray as defined by the BCPC system.

## TANK CLEANING

To avoid subsequent injury to crops other than cereals (wheat, barley, rye, triticale), all spraying equipment must be thoroughly cleaned both inside and out using a proprietary spray tank cleaner, such as All Clear Extra spray cleaner at 0.5% v/v as follows:

1. Immediately after spraying thoroughly and completely rinse all internal surfaces.
2. Rinse inside of tank with clean water and flush through booms and in-line strainers using at least one tenth of the spray tank volume. Drain tank completely.



3. Fill tank with clean water (minimum 10% of tank capacity) and add tank cleaner at the recommended rate and agitate for 15 minutes. Flush the boom and hoses and drain tank completely.
4. Nozzles and filters should be removed and cleaned separately with a tank cleaner at the recommended rate., Rinse the tank with clean water and flush through the boom and hoses using at least one tenth of the spray tank volume. Drain tank completely.
5. For disposal of washings, follow Code of Practice for Using Plant Protection Products. Do not spray onto sensitive crop or land intended for cropping with sensitive crop.

**Note:** If it is not possible to drain the tank completely, **step 3 must be repeated** before going onto step 4.

## **COMPATIBILITY**

Where tank mixes are used, and unless directed otherwise, the preferred order of addition of products to the spray tank is as follows: water dispersible granules, wettable powders, suspension concentrates (flowables), emulsifiable concentrates, solution concentrates. Each product should be added to the half-full sprayer and be fully dispersed before the addition of the next product

For details on compatibilities contact your distributor or Corteva technical hotline on +44 (0) 800 689 8899 or [ukhotline@corteva.com](mailto:ukhotline@corteva.com)

## **COMPANY ADVISORY INFORMATION**

The following information does not form part of the product label under the UK Plant Protection Products Regulations and provides additional advice on product use at the discretion of Corteva Agriscience.

## **TRADEMARK ACKNOWLEDGEMENTS**

WHORL is a Trademark of Corteva Agriscience.

All other brand names are trademarks of other manufacturers for which proprietary rights may exist.

## **CORTEVA AGRISCIENCE CONDITIONS OF SUPPLY**

All goods supplied by us are of high grade and we believe them to be suitable but, as we cannot exercise control over their storage, handling, mixing or use, or the weather conditions before, during or after application which may affect the performance of the goods, all conditions and warranties, statutory or otherwise, as to the quality or fitness for any purpose of our goods are excluded. No responsibility will be accepted by us or re-sellers for any failure in performance, damage or injury whatsoever arising from their storage, handling, application or use. These conditions cannot be varied by our staff or agents whether or not they supervise or assist in the use of such goods.

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



<https://www.corteva.co.uk/content/dam/dpagco/corteva/eu/gb/en/files/sds/WHORL-SDS.pdf>

Alternatively contact your supplier

SPECIMEN

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Arylex™ active

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**GROUP 4 HERBICIDES**

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**Crops :**

Spring wheat, spring wheat (under sown with grass), spring durum wheat, spring durum wheat (under sown with grass), spring barley, spring barley (under sown with grass), spring rye, spring rye (under sown with grass), spring triticale, spring triticale (under sown with grass), spring spelt, spring spelt (under sown with grass)

Winter wheat, winter wheat (under sown with grass), durum wheat, durum wheat (under sown with grass), winter barley, winter barley (under sown with grass), winter rye, winter rye (under sown with grass), winter triticale, winter triticale (under sown with grass), winter spelt, winter spelt (under sown with grass)

Winter oat and winter oat under sown with grass

**Maximum Individual Dose:**

**Maximum Number of Applications:**

**Latest Time of Application:**

**Aquatic Buffer Zone Distance:**

**Other Specific Restrictions:**

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**NET CONTENTS : 5 LITRES e**

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