

# KARIS 10 CS

A capsule formulation containing 100g/l (10 % w/w) lambda-cyhalothrin. For the control of a wide range of insects in wheat, barley and oats, broccoli/calabrese, brussels sprouts, cabbages, carrots, combining peas, edible podded peas, vining peas, field beans, kale, lettuces (outdoor), oilseed rape, parsnips, pears, potatoes and sugar beet. Product Registration No. MAPP 16747  
The (COSHH) Control of Substances Hazardous to Health regulations may apply to the use of this product at work.

To access the Safety Data Sheet for this product, scan the QR code or use the website: <http://headland-ag.co.uk/fmcmap>  
[catalogue.headland-ag.co.uk](http://catalogue.headland-ag.co.uk)  
Alternatively, contact your supplier.



## SAFETY PRECAUTIONS

### a. Operator Protection

When using do not eat, drink or smoke.

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 and when applying by hand-held equipment. 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 AND EXPOSED SKIN before meals and after work.  
WASH ALL PROTECTIVE CLOTHING thoroughly after use, especially the insides of gloves.  
IF YOU FEEL UNWELL, seek medical advice (show the label where possible).

### b. 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 unsprayed buffer zone distance to surface water bodies in line with LERAP requirements. 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 with the "Local Environment Risk Assessment for Pesticides Horizontal Boom Sprayers" booklet available from the HSE Chemical Regulation Directorate's website or the statutory buffer zone must be maintained. The result of the LERAP must be recorded and kept available for three years.

DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within 5m 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 1m of the top of the bank which is dry at the time of application. DO NOT ALLOW DIRECT SPRAY from hand held sprayers to fall within 1m of the top of the bank of a static or flowing water body. Aim spray away from water.  
TO PROTECT NON-TARGET ARTHROPODS respect an untreated buffer zone of 5m to noncrop land (see Directions for Use).

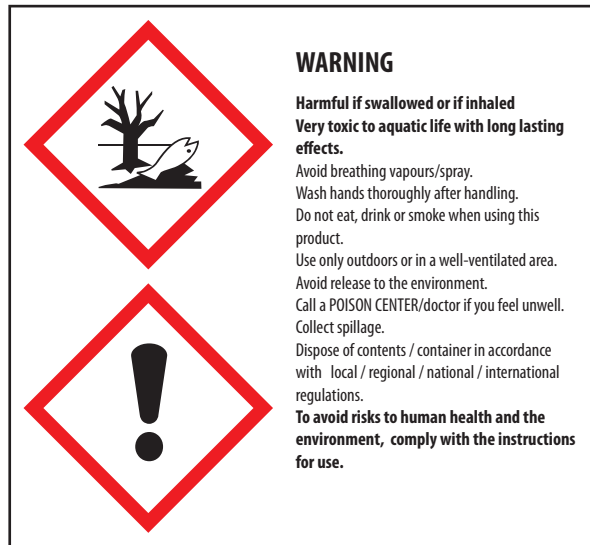
To reduce effects on non-target insects or other arthropods:  
Use on cereals: DO NOT SPRAY within 5m of the field boundary.  
Use on other arable and vegetable crops through tractor-mounted boom sprayers: avoid spraying within 5m of the field boundary.

### c. Storage and Disposal

KEEP OUT OF REACH OF CHILDREN.  
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 PROPOSE.

### d. Other specific restrictions

This product qualifies for inclusion within the Local Environment Risk Assessment for Pesticides (LERAP) scheme for horizontal boom sprayers. 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.



## WARNING

**Harmful if swallowed or if inhaled**  
**Very toxic to aquatic life with long lasting effects.**

Avoid breathing vapours/spray.  
Wash hands thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Avoid release to the environment.  
Call a POISON CENTER/doctor if you feel unwell.  
Collect spillage.  
Dispose of contents / container in accordance with local / regional / national / international regulations.  
**To avoid risks to human health and the environment, comply with the instructions for use.**

FMC Chemical, sprl,  
Rue Royale 97, 4th floor,  
B-1000 Brussels, Belgium

Headland Agrochemicals Ltd.  
Rectors Lane, Pentre, Deeside CH5 2DH.  
Tel 01244 537370 Fax 01244 532097  
e-mail [flintshire.enquiry@fmc.com](mailto:flintshire.enquiry@fmc.com)

SHAKE WELL BEFORE OPENING AND USE

PROTECT FROM FROST



This label is compliant with the CPA Voluntary Initiative guidance.

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**IMPORTANT INFORMATION  
FOR USE ONLY AS AN AGRICULTURAL INSECTICIDE**

CROP	MAXIMUM INDIVIDUAL DOSE (ml PRODUCT / ha)	MAXIMUM TOTAL DOSE (ml PRODUCT / ha / CROP)	LATEST TIME OF APPLICATION
Winter and spring wheat, barley and durum wheat	50	200	Before late milk stage (GS77)
Winter and spring oats	50	200	Before watery ripe stage (GS71)
Winter oilseed rape	75	225	Before the end of flowering
Spring oilseed rape	75	225	6 weeks before harvest
Vining peas, edible podded peas	75	150	None
Combining peas, field beans	75	150	25 days before harvest
Brussels sprouts, cabbages, cauliflowers, kale, broccoli, calabrese	100	200	None
Sugar Beet	75	150	8 weeks before harvest
Potatoes	75	300	None
Pears	90	270	7 days before harvest
Lettuces	75	150	7 days before harvest
Carrots, parsnips	150	450	14 days before harvest

**OTHER SPECIFIC RESTRICTIONS:**

The following minimum intervals between applications must be observed:

**7 days** for oilseed rape, vining peas, edible podded peas, combining peas, field beans, sugar beet, outdoor lettuces, carrots, parsnips and potatoes.

**10 days** for brussels sprouts, cabbages, cauliflowers, kale, broccoli, calabrese.

**14 days** for wheat, barley, oats and pears.

A maximum number of 4 applications per crop must not be exceeded.

**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. REDUCTION OF EFFECTS ON NON-TARGET ARTHROPODS**

DO NOT spray cereal crops within 5 metres of the field boundary For application to other arable crops using tractor-mounted boom sprayers, avoid spraying within 5 metres of the field boundary. These buffer distances should be measured from the field boundary; which for the purpose of this labelling is defined as from the edge of non-cropped land (i.e. land taken permanently out of agricultural production, including the 1- to 2-metre strips adjacent to hedgerows and water-courses established under the Single Payment Scheme). Cropped land includes managed buffer strips (e.g. grass strips, wild flower margins and conservation headlands), but since these are usually set up as havens for wild-life it is best practice to minimise spray drift onto them.

For application to pears using broadcast air-assisted sprayers the best available application technique to minimise off-target drift should be used.

**RESISTANCE MANAGEMENT**

Strains of some aphid species are resistant to many aphicides. Where resistance to products containing lambda-cyhalothrin occur, Karis 10 CS is unlikely to give satisfactory control. Repeat treatments are likely to result in lower levels of control.

**GENERAL INFORMATION**

Karis 10 CS acts by contact; therefore ensure thorough spray cover for good contact.

Processed crops: Taint tests have shown that Karis 10 CS does not taint crops; but growers should consult processors before use.

**CROP-SPECIFIC INFORMATION**

**WINTER WHEAT, WINTER BARLEY, WINTER OATS AND DURUM WHEAT**

**Barley Yellow Dwarf Virus (Aphid Vectors)**

**TIMING for High Risk (Virus Prone) Areas:**

a) Cereals sown in **September**: Apply a single KARIS 10 CS spray as a routine in the mid-late period; **October** if BYDV is commonly a problem on the farm or in the locality. If aphids can be found in the crop earlier, spray immediately. Further treatments may be required in high risk areas especially during mild winters.

b) Cereals sown from **October** onwards: Follow recommendations for low risk areas

**TIMING for Low Risk Areas:**

A spray should only be applied in the years when the risk of infection is high, based on aphid monitoring and according to specialist advice. When aphids can be found in the crop and/or specialists identify a BYDV risk, spray immediately.

**Notes:** Crops which follow closely a grass ley or weedy stubble, where there is a risk of direct aphid transfer to the crop, should be treated as high risk.

**Spring Use:**

In the absence of an earlier application of KARIS 10 CS, treatment can also be worthwhile if aphids carrying BYDV are present up to GS32

RATE OF USE	WATER VOLUME
50 ml/ha	200 l/ha

**WINTER AND SPRING WHEAT, BARLEY AND OATS AND DURUM WHEAT**

**Aphids on the ears e.g. grain aphid, rose-grain aphid**

**TIMING:** The optimum timing for application is after ear emergence (GS59). The latest time of application on wheat and barley is before GS 77 and on oats is before GS 71. Apply according to official thresholds.

**Notes:** When KARIS 10 CS is used for control of aphids on the ear, some reduction of aphids on the flag leaf will occur.

RATE OF USE	WATER VOLUME
50 ml/ha	200-300 l/ha (Use sufficient water volume to ensure thorough crop penetration)

**WINTER WHEAT**

**Yellow Cereal Fly (*Opomyza florum*)**

**TIMING:** Apply at egg hatch, usually from late January onwards depending on the season. Early emerged crops are most at risk. Sprays applied for the control of BYDV will also give some control of this pest.

RATE OF USE	WATER VOLUME
50 ml/ha	200 l/ha

**WINTER AND SPRING OILSEED RAPE**

**Flea Beetle**

**TIMING:** Apply at first signs of attack. Repeat 10–14 days later if necessary.

RATE OF USE	WATER VOLUME
75 ml/ha	200 l/ha

**Cabbage stem flea beetle**

**TIMING:** Apply in the autumn when feeding damage is first seen on young rape plants to control the adults. To control the larvae, spray once larvae can be found in the plants, normally late October/early November. Monitor crops carefully for signs of further larvae infestation and apply a second spray if required. A routine spray in late October/early November can often be justified in known high risk areas.

RATE OF USE	WATER VOLUME
50 ml/ha	200 l/ha Add a non-ionic surfactant adjuvant that is not an organosilicone in accordance with the manufacturer's instructions.

**Beet Western Yellow Virus (Aphid Vectors)**

**TIMING:** Apply as soon as aphids can be found in the crop. A second spray may be needed 3–5 weeks later if aphids continue to migrate into the crop. Applications made late in the autumn, i.e. from November onwards, may be less effective in controlling the virus if aphid migration and virus transmission had begun several weeks earlier.

KARIS 10 CS applied to control aphid vectors of Beet Western Yellow Virus will reduce the level of virus in the crop and will also provide good control of Cabbage Stem Flea Beetle adults and larvae depending on their incidence and the period of egg hatch.

RATE OF USE	WATER VOLUME
75 ml/ha	200 l/ha. Add a non-ionic surfactant adjuvant that is not an organosilicone in accordance with the manufacturer's instructions.

**Pollen Beetle**

**TIMING:** Apply at the green/yellow bud stage according to specialist advice or if official thresholds are reached.

**Resistance:** Pollen beetle populations resistant to pyrethroids may occur. Please refer to current IRAG and HGCA advice on resistance management and control of pollen beetle in OSR. Spray only where beetle numbers exceed the appropriate current threshold. Inspect crops in the headland and midfield. Use a non-pyrethroid if above threshold numbers of beetles survive a pyrethroid treatment, or in areas of high pyrethroid resistance risk.

For aphid control use a suitable aphicide depending on other pests present; consult an agronomist.

RATE OF USE	WATER VOLUME
75 ml/ha	200-300 l/ha (Use sufficient water volume to ensure thorough crop penetration)

**Seed Weevil and Pod Midge**

**TIMING:** Applications should be made during the flowering period when Seed Weevil numbers reach the threshold for spraying. Best results are normally achieved when application coincides with the onset of peak adult activity. This often occurs between the 20% pod set stage and the end of flowering on the main raceme (i.e. 75% petal fall across the entire crop). Avoid spraying in the heat of the day when bees are particularly active.

For spring sown varieties apply at green to yellow bud stage if Seed Weevils are present at threshold levels. Repeat application during flowering if the attack is prolonged.

The latest time of application to winter oilseed rape is the end of flowering and the latest time for spring oilseed rape is six weeks before harvest.

RATE OF USE	WATER VOLUME
75 ml/ha	200-300 l/ha (Use sufficient water volume to ensure thorough crop penetration)

**WINTER AND SPRING FIELD BEANS****Pea and Bean Weevil**

**TIMING:** For the reduction of leaf notching/feeding damage, apply if there is a risk of severe damage by adult weevils to the growing points of the crop in the early stages of growth. Under high pest pressure a repeat application may be required 2–3 weeks after the initial application. Where there is a history of severe weevil damage, a first application made at the first signs of adult attack (leaf notching) may be beneficial in some situations.

RATE OF USE	WATER VOLUME
75 ml/ha	200-300 l/ha (Use sufficient water volume to ensure thorough crop penetration)

**POTATOES****Aphids**

**TIMING:** Seed crops: In these crops minimising the spread of viruses e.g. Potato Virus Y (PVY) is usually the prime consideration. Myzus persicae is the main vector of virus diseases in potatoes. To discourage aphid feeding (so as to minimise virus transmission) and to control aphids already in the crop use KARIS 10 CS in mixture with either PLENUM WG® or APHOX®. Observe any label restrictions on the partner product. Where it is suspected that forms of Myzus persicae tolerant to pirimicarb (APHOX®) are present a mixture with PLENUM WG® is likely to provide the best control. KARIS 10 CS can also provide incidental control of other pests e.g. Cutworms if the timing coincides with that for aphid control. Ware crops: Use KARIS 10 CS for the control of Macrosiphum euphorbiae and other aphid pests. Where resistant forms of Myzus persicae are present or suspected KARIS 10 CS should not be used. PLENUM WG is a suitable alternative for the control of all forms of Myzus persicae. KARIS 10 CS can also provide incidental control of other pests e.g. Cutworms if the timing coincides with that for aphid control.

RATE OF USE	WATER VOLUME
75 ml/ha	At least 400 l/ha (Use sufficient water volume to ensure thorough crop penetration)

**SUGAR BEET****Flea Beetle**

**TIMING:** Apply as soon as adult feeding damage is seen. Repeat if necessary.

RATE OF USE	WATER VOLUME
75 ml/ha	200 l/ha

**Beet Leaf Miner (Mangold Fly)**

**TIMING:** Apply at egg hatch or according to specialist advice. Repeat if necessary.

RATE OF USE	WATER VOLUME
75 ml/ha	200 l/ha

**Cutworm**

**TIMING:** Apply according to specialist advice at egg hatch and repeat 10–14 days later.

The latest time of application is eight weeks before harvest

RATE OF USE	WATER VOLUME
75 ml/ha	400-1000 l/ha (Use sufficient water volume to ensure thorough crop penetration)

**Notes on aphid control:** If Peach Potato Aphid (*M. persicae*) or Black Bean Aphid (*Aphis fabae*) is present in the crop at the time of an application to control Flea Beetle, Leaf Miner or Cutworm use a tank mix with APHOX at 280 g/ha.

**BRUSSELS SPROUTS, CABBAGES, CAULIFLOWERS, KALE AND BROCCOLI (INCLUDING CALABRESE)****Caterpillars**

**TIMING:** Apply at first sign of attack. Repeat if necessary.

RATE OF USE	WATER VOLUME
50 ml/ha	300-600 l/ha (Use sufficient water volume to ensure thorough crop penetration. Consider applying to brussels sprouts through a drop-leg sprayer). Add a non-ionic surfactant adjuvant that is not an organosilicone in accordance with the manufacturer's instructions.

**Whitefly**

**TIMING:** Apply at first sign of attack. Repeat 10–14 days later if necessary.

RATE OF USE	WATER VOLUME
100 ml/ha	300-600 l/ha (Use sufficient water volume to ensure thorough crop penetration. Consider applying to brussels sprouts through a drop-leg sprayer). Add a non-ionic surfactant adjuvant that is not an organosilicone in accordance with the manufacturer's instructions.

**Note on aphid control:** If the Peach Potato Aphid (*M. persicae*) is present in the crop at the time of an application to control caterpillars or whitefly use a tank mix with APHOX at 280 g/ha.

## PEAS

<b>Pea and Bean Weevil</b>	
<b>TIMING:</b> For the reduction of leaf notching/feeding damage, apply if there is a risk of severe damage by adult weevils to the growing points of the crop in the early stages of growth. Under high pest pressure a repeat application may be required 2–3 weeks after the initial application. Where there is a history of severe weevil damage, a first application made at the first signs of adult attack (leaf notching) may be beneficial in some situations.	
<b>RATE OF USE</b> 75 ml/ha	<b>WATER VOLUME</b> 200 l/ha
<b>Pea Moth</b>	
<b>TIMING:</b> Combining Peas: Apply to flowering crops according to official advice or as indicated by pheromone traps. Spray later crops as soon as they are in full flower. Apply a second treatment 10–14 days after the first. Edible Podded and Vining Peas: Crops which are in full flower should be treated with a single spray at the calculated date.	
<b>RATE OF USE</b> 50 ml/ha See notes above.	<b>WATER VOLUME</b> 300-600 l/ha (Use sufficient water volume to ensure thorough crop penetration).
<b>Pea Aphid</b>	
<b>TIMING:</b> Apply to flowering crops according to specialist advice or when thresholds are reached. Repeat if necessary. Inspect the crop carefully, especially during the early stages of flowering. <b>Notes:</b> KARIS 10 CS will provide effective control of early aphid infestations of Pea Aphid which are confined to the terminal growing points of the crop and are exposed to spray droplets. For established aphid infestations on the growing points and for aphid infestations which are sheltered within the crop canopy apply KARIS 10 CS in tank mixture with APHOX at 140 g/ha. Where aphids are the only pest present and are well established throughout a crop canopy which is dense it is preferable to apply APHOX alone at 280 g/ha.	
<b>RATE OF USE</b> 50 ml/ha	<b>WATER VOLUME</b> 300-600 l/ha (Use sufficient water volume to ensure thorough crop penetration).
<b>Pea Midge</b>	
<b>TIMING:</b> Apply within 3–5 days of the first adult midges being found in the crop. Repeat 7–10 days later if midge activity continues. Sprays can be delayed if the weather is not suitable for midge activity or if the crop is not at a susceptible growth stage. Note: Consult a crop specialist for advice on application timing and information on midge activity in your area.	
<b>RATE OF USE</b> 75 ml/ha	<b>WATER VOLUME</b> 300-600 l/ha (Use sufficient water volume to ensure thorough crop penetration).

## PEARS

<b>Pear Sucker</b>	
<b>TIMING:</b> Apply when first sucker eggs are being laid, usually in late February/early March. Should sucker build up in the summer in the absence of predators, apply KARIS 10 CS at the same rate and repeat after 2–3 weeks if necessary. Resistance: Pear Suckers resistant to one or more groups of insecticides are widespread. Where strains resistant to products containing pyrethroid insecticide occur, KARIS 10 CS is unlikely to give satisfactory control of this pest. Where repeat treatment is necessary use different active ingredients.	
<b>RATE OF USE</b> 90 ml/ha	<b>WATER VOLUME</b> 200-2000 l/ha (Use sufficient water volume to ensure thorough crop penetration).

## OUTDOOR LETTUCES

<b>Cutworm</b>	
<b>TIMING:</b> Apply at egg hatch or according to specialist advice and repeat 10–14 days later.	
<b>RATE OF USE</b> 75 ml/ha	<b>WATER VOLUME</b> 400-1000 l/ha (Use sufficient water volume to ensure thorough crop penetration).

## CARROTS AND PARSNIPS

<b>Cutworm</b>	
<b>TIMING:</b> Apply at egg hatch or according to specialist advice and repeat 10–14 days later.	
<b>RATE OF USE</b> 75 ml/ha	<b>WATER VOLUME</b> 400-1000 l/ha (Use sufficient water volume to ensure thorough crop penetration). This product is only to be used in accordance with the recommendations and instructions provided with this pack. Use in any other circumstances is entirely at user's risk.

## MIXING AND SPRAYING:

**Preparation of sprayer:** Part fill the spray tank with clean water and start agitation. Shake the container and add the correct amount of KARIS 10 CS to the sprayer using a filling device (e.g. induction bowl, probe etc.) or by direct addition to the spray tank. Wash out container thoroughly. Preferably use an integrated pressure-rinsing device or manually rinse three times. Add washings to the sprayer at the time of filling. Dispose of rinsed container safely according to DEFRA Code of Practice.

**Spraying:** Ensure adequate volume and pressure is used and that the sprayer is correctly calibrated before use. Do not leave the spray liquid in the sprayer for long periods (i.e. during meals or overnight).