Warrior®

syngenta®

Product registration number:
MAPP 13857

A capsule suspension formulation containing 100 g/l lambda-cyhalothrin and 1,2-benzisothiazolin-3-one.

For the control of insect pests in winter and spring wheat, winter and spring barley, spring and winter oats and durum wheat, oilseed rape, potatoes, sugar beet, beans, brassicas, peas, outdoor lettuce, carrot, parsnip and pears.

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

In case of toxic or transport emergency ring +44 (0)1484 538444 any time

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UN 3082

WARRIOR

A capsule suspension formulation containing 100 g/l lambda-cyhalothrin and 1,2-benzisothiazolin-3-one.

Signal Word	Warning	
Hazard Statements	H302/332	Harmful if swallowed or inhaled.
	H317	May cause an allergic skin reaction.
	H410	Very toxic to aquatic life with long lasting effects.
Precautions Statements	P102	Keep out of reach of children.
	P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
	P270	Do not eat, drink or smoke when using this product.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P301/P312	IF SWALLOWED: Call a POISON CENTRE or doctor/ physician if you feel unwell.
	P302/352	IF ON SKIN: Wash with plenty of soap and water.
	P304/P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
	P391	Collect spillage.
	P501	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.
Supplemental Information	EUH401	To avoid risks to human health and the environment comply with the instructions for use.

MAPP 13857

IMPORTANT INFORMATION
FOR USE ONLY AS AN AGRICULTURAL/HORTICULTURAL INSECTICIDE

Crops	**Maximum individual dose (ml product/ha).**	**Maximum total dose (ml product/ha/crop).**	**Latest time of application.**
Winter and spring wheat and barley	50	200	Before late milk stage (GS 77)
Winter and spring oats	50	200	Before watery ripe stage (GS 71)
Oilseed rape (winter)	75	225	Before the end of flowering
Oilseed rape (spring)	75	225	6 weeks before harvest
Combining pea, field bean	75	150	25 days before harvest
Vining pea, edible podded pea	75	150	-
Potato	75	300	-
Sugar beet	75	150	8 weeks before harvest
Brussels sprout, cabbage, cauliflower, broccoli, calabrese	100	200	-
Pear	90	270ml /ha/annum.	7 days before harvest
Outdoor Lettuce	75	150	7 days before harvest
Carrot, parsnip	150	450	14 days before harvest

Other specific restrictions:
The following minimum intervals between applications must be observed:
7 days for oilseed rape, vining pea, edible podded pea, combining pea, field bean, sugar beet, outdoor lettuce, carrot, parsnip and potato.
10 days for Brussels sprout, cabbage, cauliflower, broccoli, calabrese.
14 days for wheat, barley, oats and pears.
A mamimum 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.

SAFETY PRECAUTIONS

(a) 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 and when applying by hand-held equipment.

However, engineering controls may replace personal protective equipment if a COSHH assessment shows 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.

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 Local Environmental 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. DO NOT ALLOW DIRECT SPRAY from hand held sprayers to fall within 1 m of the top of the bank of a static or flowing waterbody. Aim spray away from water.

DO NOT ALLOW DIRECT SPRAY from broadcast air-assisted applications to fall within 25 m of the top of the bank of a static or flowing waterbody, unless a Local Environmental Risk Assessment for Pesticides (LERAP) permits a narrower buffer zone, or within 5m of the top of a ditch which is dry at the time of application. Aim spray away from water.

To protect aquatic organisms, respect an 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 or broadcast air-assisted sprayer either a LERAP must be carried out in accordance with CRD's published guidance or the statutory buffer zone must be maintained. The result of the LERAP must be recorded and kept available for three years.

TO PROTECT NON-TARGET INSECTS/ARTHROPODS respect an untreated buffer zone of 5m to non-crop land (see Directions for use).

(c) 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 leaflet is part of the approved Product Label.

DIRECTIONS FOR USE
IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be carefully read in order to obtain safe and successful use of this product.

To reduce effects on non-target insects or other arthropods:
For application to cereals: DO NOT SPRAY WITHIN 5m OF THE FIELD BOUNDARY[1].
For application to other arable and vegetable crops using tractor mounted boom sprayers: Avoid spraying within 5m of the field boundary[1].
For application to pears using broadcast air-assisted sprayers: The best available application technique, which minimises off-target drift, should be used.

[1] These buffer distances should be measured from the field boundary, which for the purposes of this labelling, is defined as from the edge of non-cropped land (i.e. land taken permanently out of agricultural production, including the 1-2 m strips adjacent to hedgerows and watercourses 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 wildlife it is best practice to minimise spray drift onto them.

RESISTANCE MANAGEMENT
Strains of some aphid species are resistant to many aphicides. Where aphids resistant to products containing lambda-cyhalothrin occur, WARRIOR is unlikely to give satisfactory control. Repeat treatments are likely to result in lower levels of control.

GENERAL INFORMATION
WARRIOR acts by contact, therefore ensure thorough spray cover for good control.
Processed Crops: Taint tests have shown that WARRIOR 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 WARRIOR spray as a routine in the period mid-late 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 recommen dations 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. Note: 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 WARRIOR, treatment can also be worthwhile if aphids carrying BYDV are present up to GS Z32.	
RATE OF USE 50 ml/ha	**WATER VOLUME** 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 (GS Z59). The latest time of application on wheat and barley is before GS Z77 and on oats is before GS Z71. Apply according to official thresholds. Notes: When WARRIOR is used for control of aphids on the ear, some reduction of aphids on the flag leaf will occur.	
RATE OF USE 50 ml/ha	**WATER VOLUME** 200-300l/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 & SPRING WHEAT

Orange Wheat Blossom Midge *(Sitodiplosis mosellana)*	
WARRIOR can provide a reduction in damage in susceptible crops associated with this pest. Timing: Monitoring of adult midge activity is essential to determine the optimum time for treatment. Pheromone traps in the crop should provide the best information on when to spray. Apply immediately the threshold numbers of adult egg laying midges are found. Crops between ear emergence and the start of flowering (GS Z51-59) can be vulnerable to attack, those at GS Z55 - 57 are most susceptible. To achieve the best results WARRIOR should be used before large numbers of eggs are laid, as the product is active against adults. Late application is less likely to be effective and should be avoided. For further information on orange wheat blossom midge, including details on pest thresholds consult the HGCA information sheet on this pest or your local BASIS qualified agronomist.	
RATE OF USE	**WATER VOLUME**
50 ml/ha	200 l/ha
Gout Fly *(Chlorops tumilionis)*	
Timing: Inspect crop regularly from the one leaf stage and apply when the first eggs are laid. For maximum effect, treatment must be made before the majority of eggs hatch. Efficacy will be reduced if treatment is applied when plant invasion has started.	
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.	
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, ie. from November onwards, may be less effective in controlling the virus if aphid migration and virus transmission had begun several weeks earlier. WARRIOR 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.	
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 Beetles	
Timing: Apply at the green/yellow bud stage according to specialist advice or if official thresholds are reached.	
75 ml/ha	200-300l/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.	
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 to 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 75 ml/ha	**WATER VOLUME** 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 WARRIOR in mixture with either PLENUM WG. Observe any label restrictions on the partner product. WARRIOR can also provide incidental control of other pests e.g. cutworms if the timing coincides with that for aphid control. **Ware crops:** Use WARRIOR for the control of *Macrosiphum euphorbiae* and other aphid pests. Where resistant forms of *Myzus persicae* are present or suspected WARRIOR should not be used. PLENUM WG is a suitable alternative for the control of all forms of *Myzus persicae*. WARRIOR can also provide incidental control of other pests e.g. cutworms if the timing coincides with that for aphid control.	
RATE OF USE 75 ml/ha	**WATER VOLUME** 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 75 ml/ha	**WATER VOLUME** 200 l/ha
Beet Leaf Miner (Mangold Fly)	
Timing: Apply at egg hatch or according to specialist advice. Repeat if necessary.	
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.	
75 ml/ha	400-1000 l/ha (Use sufficient water volume to ensure thorough crop penetration).

BRUSSELS SPROUT, CABBAGE, CAULIFLOWER AND BROCCOLI (INCLUDING CALABRESE)

Caterpillars	
Timing: Apply at first sign of attack. Repeat if necessary.	
RATE OF USE 50 ml/ha	**WATER VOLUME** 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.	
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.

PEAS

Pea & 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 to 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 75 ml/ha	**WATER VOLUME** 200 l/ha
Pea Moth	
Timing: 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.	
50 ml/ha	300 - 600 l/ha (Use sufficient water volume to ensure thorough crop penetration.)
Pea Aphid	
Timing: 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	
50 ml/ha (see notes below)	300 - 600 l/ha (Use sufficient water volume to ensure thorough crop penetration)

Notes: WARRIOR 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 WARRIOR in tank mixture with APHOX at 140g/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 280g/ha.	
Pea Midge	
Timing: 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.	
75 ml/ha	300 - 600 l/ha (Use sufficient water volume to ensure thorough crop penetration)

PEARS

Pear Sucker	
Timing: 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 WARRIOR at the same rate and repeat after 2-3 weeks if necessary. If predators are present, use `Dimilin' WP.	
RATE OF USE 90 ml/ha	**WATER VOLUME** 200 - 2000 l/ha (Use sufficient water volume to ensure thorough crop penetration.)
Resistance: Pear suckers resistant to one or more groups of insecticides are widespread. Where strains resistant to products containing pyrethroid insecticide occur, WARRIOR is unlikely to give satisfactory control of this pest. Where repeat treatment is necessary use different active ingredients.	

OUTDOOR LETTUCE

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

CARROTS AND PARSNIPS

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

Carrot Fly *(Psila rosae)*	
For useful levels of control of damage to roots caused by second generation. Timing: WARRIOR is active against adult flies, but not larvae in the soil or carrot root. The first application of WARRIOR should be applied one week before the forecast of 10% (first) egg-laying. Contact HRI or your specialist advisor for details. Subsequent applications should be made at 12-14 day intervals until the risk from carrot fly has passed. Maintain a regular programme of sprays to reduce the incidence of egg laying as far as possible. The optimum time for application is 4 – 6 pm on warm days.	
RATE OF USE 150 ml product per hectare **MAXIMUM TOTAL DOSE** 450 ml product/ha/crop	**WATER VOLUME** 300 – 600 litres per hectare. Apply as a medium to fine spray to achieve good coverage of the foliage.

This product is to be used only 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 WARRIOR to the sprayer using a filling device (eg. 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).