



syngenta®

For use as an insecticide to control insect pests in a wide range of agricultural and horticultural crops.

Contains 100 g/l lambda-cyhalothrin and 1,2-benzisothiazolin-3-one,

FOR USE ONLY AS AN AGRICULTURAL/ HORTICULTURAL INSECTICIDE.

IN CASE OF TOXIC OR TRANSPORT EMERGENCY RING +44 (0) 1484 538444

ANYTIME (24HR)

PROTECT FROM FROST.
SHAKE WELL BEFORE USE.
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KARATE ZEON**FOR PROFESSIONAL USE ONLY**

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

Signal Word

Warning

Hazard

Harmful if swallowed or inhaled.

Statements

May cause an allergic skin reaction.

Very toxic to aquatic life with long lasting effects.

Precautions

Keep out of reach of children.

Statements

Avoid breathing dust/fume/gas/mist/vapours/spray.

Do not eat, drink or smoke when using this product.

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

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN: Wash with plenty of soap and water.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Collect spillage.

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.

Do not allow spray from horizontal boom sprayers to fall within 5m of the top of the bank of any static or flowing waterbody or within 1m of a ditch which is dry at the time of application.

Do not allow direct spray from broadcast air-assisted sprayers to fall within 25m of the top of the bank of any static or flowing waterbody or within 5m of a ditch which is dry at the time of application.

Do not allow spray from hand-held sprayers to fall within 1m of the top of the bank of a static or flowing waterbody.

**Supplemental
Information**

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



PCS No: 04084

For use as an insecticide for the control of insect pests in wheat, barley, rye, triticale, oats, potatoes, sugar beet, fodder beet, oilseed rape, field beans, combining peas, edible podded pea, vining pea, broccoli/calabrese, Brussel sprout, cabbage, cauliflower, lettuce, carrots, parsnips and pear.

Crop	Maximum individual dose	Maximum number of applications	Minimum interval between sprays	Maximum total dose	Latest timing of application	Specific pest controlled
Winter and spring wheat, winter and spring barley, winter rye and triticale.	50ml/ha	4	14 days	200ml/ha	Before late milk stage (GS 77)	Aphids, yellow cereal fly, orange blossom midge and gout fly.
Spring and winter oats	50ml/ha	4	14 days	200ml/ha	Before watery ripe stage (GS 71)	
Potatoes (seed and ware)	75ml/ha	4	7 days	300ml/ha	-	Aphids
Sugar beet & fodder beet	75ml/ha	4	7 days	150ml/ha	8 weeks pre-harvest	Flea beetle, beet leaf miner, cut worms
Oilseed rape (winter)	75ml/ha	4	7 days	225ml/ha	Before the end of flowering	Cabbage stem flea beetle, aphids, pollen beetles, seed weevils, pod midge.
Oilseed rape (spring)	75ml/ha	4	7 days	225ml/ha	6 weeks before harvest	
Field beans	75ml/ha	4	7 days	150ml/ha	25 days before harvest	Pea and bean weevil and aphids

Crop	Maximum individual dose	Maximum number of applications	Minimum interval between sprays	Maximum total dose	Latest timing of application	Specific pest controlled
Combining peas	75ml/ha	4	7 days	150ml/ha	25 days before harvest	Pea and bean weevil, pea moth, pea midge and pea aphid.
Edible podded pea, vining pea	75ml/ha	4	7 days	150ml/ha	-	
Broccoli/calabrese, Brussels sprout, cabbage and cauliflower	100ml/ha	4	10 days	200ml/ha	-	Caterpillars and whitefly
Lettuce (outdoor)	75ml/ha	4	7 days	150ml/ha	7 days pre-harvest	Cutworm
Carrot and parsnip	150ml/ha	4	7 days	450ml/ha	14 days pre-harvest	Cutworm and carrot fly
Pear	90 ml/ha	4	14 days	270ml/ha	7 days pre-harvest	Aphids

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

Processed Crops: CONSULT PROCESSORS BEFORE TREATING CROPS INTENDED FOR PROCESSING

Additional Safety Information.

Operator protection

Wash splashes from skin and eyes immediately.
Wash hands and exposed skin before meals and after work.
When using do not eat drink or smoke.

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.

Storage and disposal.

Keep in original container, tightly closed in a safe place.

Wash out containers thoroughly, preferably using an integrated pressure rinsing device, or manually rinse three times.

Add washings to the sprayer at the time of filling. Complete filling to the required volume and continue to agitate throughout the spraying operation. Do not reuse container for any other purpose.

CROP RECOMMENDATIONS

WINTER AND SPRING WHEAT, WINTER AND SPRING BARLEY, SPRING AND WINTER OATS, RYE AND TRITICALE.

Barley Yellow Dwarf Virus (Aphid Vectors)	RATE OF USE 50 ml/ha	WATER VOLUME 200 l/ha
<p>Timing:</p> <p>a) Cereals emerging during September: Apply a single Karate Zeon 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.</p> <p>b) Cereals sown from October onwards: Follow recommendations for low risk areas.</p> <p>Timing for Low Risk Areas:</p> <p>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.</p> <p>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.</p> <p>Spring use</p> <p>In the absence of an earlier application of Karate Zeon, treatment can also be worthwhile if aphids carrying BYDV are present up to GS 32.</p>		

WINTER AND SPRING WHEAT, WINTER AND SPRING BARLEY, SPRING AND WINTER OATS, RYE AND TRITICALE.

Aphids on the ears Eg. Grain Aphid, Rose-grain Aphid	RATE OF USE 50 ml/ha	WATER VOLUME 200-300l/ha (see notes below)
Timing: The optimum timing for application is after ear emergence (GS 59) The latest time of application is before GS 77. Apply according to official thresholds. Notes: When Karate Zeon is used for control of aphids on the ear, some reduction of aphids on the flag leaf will occur. Use sufficient water volume to ensure thorough crop penetration.		

WINTER AND SPRING WHEAT

Yellow cereal fly (<i>Opomyza florum</i>)	RATE OF USE 50 ml/ha	WATER VOLUME 200 l/ha
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.		
Orange wheat blossom midge (<i>Sitodiplosis mosellana</i>)	50 ml/ha	200 l/ha
Timing: Applications should be made if a threshold number of midges laying eggs on the ears are found. Best results are achieved if application timing coincides with adult midge flight. Midges start laying on the lower ears within a crop in the early evening and work higher as the light fails; egg laying continues until dark.		
Gout fly (<i>Chlorops tumilionis</i>)	50 ml/ha	200 l/ha
Timing: Apply at the one leaf stage of the crop when the first eggs are laid. Sprays applied for the control of BYDV will also give some control of this pest.		
MAXIMUM TOTAL DOSE: 200 ml per cereal crop per hectare		

This product must not be applied to a cereal crop if any product containing a pyrethroid insecticide or dimethoate has been applied to that crop after the start of ear emergence (GS 51).

WINTER AND SPRING OILSEED RAPE

Flea Beetle	RATE OF USE	WATER VOLUME
	75 ml/ha	200 l/ha
Timing: Apply at first signs of attack. Repeat 10-14 days later if necessary.		
Cabbage Stem Flea Beetle	50 ml/ha	200 l/ha
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.		
Beet Western Yellow Virus (Aphid Vectors)	75 ml/ha	200 l/ha Add a non-ionic surfactant adjuvant that is not an organosilicone in accordance with the manufacturer's instructions.
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. KARATE ZEON 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.		
Pollen Beetles	75 ml/ha	200-300l/ha (Use sufficient water volume to ensure thorough crop penetration)
Timing: Apply at the green/yellow bud stage according to specialist advice or if official thresholds are reached.		
Seed Weevil and Pod Midge	75 ml/ha	200-300l/ha (Use sufficient water volume to ensure thorough crop penetration)

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.

MAXIMUM TOTAL DOSE: 225ml per hectare per crop

WINTER AND SPRING FIELD BEANS

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

MAXIMUM TOTAL DOSE: 150ml per hectare per crop

COMBINING, EDIBLE PODDED AND VINING PEAS

Pea and Bean Weevil	RATE OF USE 75 ml/ha	WATER VOLUME 200 l/ha
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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.

Pea Moth	50 ml/ha	300 - 600 l/ha (Use sufficient water volume to ensure thorough crop penetration.)
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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.

Pea Aphid	50 ml/ha (see notes below)	300 - 600 l/ha (Use sufficient water volume to ensure thorough crop penetration)
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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.

Notes: KARATE ZEON will provide effective control of early 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 KARATE ZEON 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	75 ml/ha	300 - 600 l/ha (Use sufficient water volume to ensure thorough crop penetration)
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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.

MAXIMUM TOTAL DOSE: 150ml per hectare per crop

CARROT AND PARSNIP

Cutworm	RATE OF USE	WATER VOLUME
	75 ml/ha	400-1000 l/ha
Timing: Apply at egg hatch or according to specialist advice and repeat 10-14 days later. Note: Use sufficient water volume to ensure thorough crop penetration.		
Carrot Fly	150 ml/ha	200-300 l/ha
Timing: Karate Zeon is particularly suitable for the control of second and subsequent generations of carrot fly. A programme of treatments provides the best results. Application should be targeted at the crop foliage, high volume sprays should not be used. Karate Zeon may give reduction of the first generation, one application is usually sufficient, the crop must have a minimum of 4 true leaves. For the control of the later generations, applications should be made at approximately weekly intervals. The first treatment should occur a week before 10% egg laying, or when the first adult flies are caught on sticky traps. Evenings are the best time to apply. Maximum total dose: 450 ml per hectare per crop (four applications)		
MAXIMUM TOTAL DOSE: 450 ml per hectare per crop.		

POTATOES (SEED AND WARE CROPS)

Aphids	RATE OF USE	WATER VOLUME
	75 ml/ha	At least 400 l/ha (see note below)
Timing:- Seed crops: Apply in mixture with 'Aphox' at 280g/ha. Apply the first spray according to specialist advice (normally at 80% emergence) and apply additional sprays at 7-14 day intervals (according to pest pressure) until the risk of virus transmission has diminished. Ware crops: Apply according to specialist advice or as soon as aphids reach threshold levels. Repeat if necessary. If aphids are present in the base of the crop or if resistant strains of the Peach-potato Aphid are believed to be present tank mix 'Aphox' at 280g/ha. Note: Use sufficient water volume to ensure thorough crop penetration.		
MAXIMUM TOTAL DOSE: 300 ml per hectare per crop		

LETTUCE (OUTDOOR)

Cutworm	RATE OF USE 75 ml/ha	WATER VOLUME 400-1000 l/ha
Timing: Apply at egg hatch or according to specialist advice and repeat 10-14 days later. Note: Use sufficient water volume to ensure thorough crop penetration		
MAXIMUM TOTAL DOSE: 150 ml per hectare per crop		

BRUSSELS SPROUTS, CAULIFLOWER AND BROCCOLI (INCLUDING CALABRESE)

Caterpillars	RATE OF USE 50 ml/ha	WATER VOLUME 300-600 l/ha (see note below)
Timing: Apply at first sign of attack. Repeat if necessary. Notes: Use sufficient water volume to ensure thorough crop penetration. Add a non-ionic surfactant adjuvant that is not an organosilicone in accordance with the manufacturer's instructions.		
Whitefly	100 ml/ha	300-600 l/ha (see notes below)
Timing: Apply at first sign of attack. Repeat 10-14 days later if necessary. Notes: Use sufficient water volume to ensure thorough crop penetration. 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 (<i>M.persicae</i>) is present in the crop at the time of an application to control caterpillars or whitefly use a tank mix with 'Aphox' at 280g/ha.		
MAXIMUM TOTAL DOSE: 200 ml per hectare per crop.		

HEAD CABBAGE

Caterpillars	RATE OF USE 50 ml/ha	WATER VOLUME 300-600 l/ha (see note below)
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Notes : Use sufficient water volume to ensure thorough crop penetration. Add a non-ionic surfactant adjuvant that is not an organosilicone in accordance with the manufacturer's instructions.		
Whitefly	100 ml/ha	300-600 l/ha (see notes below)
Timing: Apply at first sign of attack. Repeat 10-14 days later if necessary. Notes: Use sufficient water volume to ensure thorough crop penetration. 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 (<i>M.persicae</i>) is present in the crop at the time of an application to control caterpillars or whitefly use a tank mix with 'Aphox' at 280g/ha.		
MAXIMUM TOTAL DOSE: 200 ml per hectare per crop.		

SUGAR AND FODDER BEET

Flea Beetle	RATE OF USE 75 ml/ha	WATER VOLUME 200 l/ha
Timing: Apply as soon as adult feeding damage is seen . Repeat if necessary.		
Beet Leaf Miner (Mangold Fly)	75 ml/ha	200 l/ha
Timing: Apply at egg hatch or according to specialist advice. Repeat if necessary.		
Cutworm	75 ml/ha	400-1000 l/ha See note below.
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. Note: Use sufficient water volume to ensure thorough crop penetration.		
Note on aphid control: If peach-potato aphid (<i>M.persicae</i>) or black bean aphid (<i>Aphis fabae</i>) 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 280g/ha.		
MAXIMUM TOTAL DOSE: 150 ml per hectare per crop.		

PEARS

Pear sucker	RATE OF USE	WATER VOLUME
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 KARATE at the same rate and repeat after 2-3 weeks if necessary.	90ml/ha	200-2000 l/ha (use sufficient water volume to ensure crop penetration).
MAXIMUM TOTAL DOSE: 270 ml per hectare per crop.		

DIRECTIONS FOR USE

Karate Zeon acts by contact, therefore ensure thorough spray cover for good control.

Preparation of sprayer:

Part fill the spray tank with clean water and start agitation. Shake the container and add the correct amount of Karate Zeon 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.

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).

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

To ensure maximum and prolonged effectiveness and to minimise the likelihood of resistant strains of pests developing, it is recommended that a non-pyrethroid insecticide is incorporated into annual spray programmes.

Control may be reduced where strains of pest resistant to Karate Zeon develop.

Processed crops - Taint tests have shown that Karate Zeon does not taint crops, but growers should consult processors before use.

This product may only be used in a tank mix or in sequence with other products when these uses comply with the label recommendations of every product in the tank/mix/sequence.

Compatibility – Please consult Syngenta Ireland for advice on mixture products.

This product is to be used only in accordance with the recommendations and instructions given on the labels provided with this pack. Use in any other circumstances is entirely at user's risk.

For use as an insecticide for the control of insect pests in wheat, barley, rye, triticale, oats, potatoes, sugar beet, fodder beet, oilseed rape, combining pea, field bean, edible podded pea, vining pea, broccoli/calabrese, Brussels sprout, cabbage, cauliflower, lettuce (outdoor), carrot, parsnip and pear.

Contains 100 g/l lambda-cyhalothrin and 1,2-benzisothiazolin-3-one.

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