

Markate[®]50



INSECTICIDE

- ▶ For use as an insecticide in agricultural and horticultural crops.
- ▶ 50 g/L (5.5% w/w) of lambda-cyhalothrin
- ▶ Emulsifiable concentrate (EC)
- ▶ PCS No. 05001

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE.

FOR PROFESSIONAL USE ONLY

FOR 24 HOUR EMERGENCY INFORMATION CONTACT GLOBACHEM NV.
TELEPHONE: +32 11 78 57 17

BATCH NO: SEE BOTTLE



ET12805/VO3

CONTENTS:

1 L

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MARKATE[®] is a registered trademark for GLOBACHEM N.V.



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INSECTICIDE



DANGER

RISK AND SAFETY INFORMATION

Toxic if swallowed
May be fatal if swallowed and enters airways
Causes severe skin burns and eye damage
Harmful if inhaled
May cause drowsiness or dizziness
Very toxic to aquatic life with long lasting effects.
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
Do not breathe spray
Wear face protection, protective gloves
Call a POISON CENTER/doctor/physician if you feel unwell

Collect spillage.
Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty triple rinsed containers which can be disposed of as non-hazardous waste.

Field Sprayer: To protect aquatic organisms respect an unsprayed buffer zone of 5m to surface water bodies
Orchard/Blast Sprayer: To protect aquatic organisms respect an unsprayed buffer zone of 25m to surface water bodies
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)

PCS No. 05001

IMPORTANT INFORMATION

Agricultural/horticultural insecticide for use on

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

CROP	Max. individual dose (mL/ ha)	Max. no. of applications	Max. total dose (mL/ha/crop)	Latest time of application
Wheat, durum wheat, barley, rye, oats	100	4	400	Before late milk stage (GS 77)
Triticale	100	4	400	Before second node detectable stage (GS 32)
Potato (seed and ware)	150	4	600	-
Sugar beet & fodder beet	150	2	300	8 weeks pre-harvest
Oilseed rape (Winter)	150	3	450	Before end of flowering
Oilseed rape (Spring)	150	3	450	6 weeks before harvest
Combining pea, field bean	150	2	300	25 days before harvest
Edible podded pea, vining pea	150	2	300	-
Broccoli/calabrese, Brussels sprout, cabbage, cauliflower	200	4	400	-
Carrot and Parsnip	300	3	900	14 days pre-harvest
Pear	180	3	540	7 days pre-harvest





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SAFETY PRECAUTIONS

WASH CONCENTRATE from skin or eyes immediately.
WASH ALL PROTECTIVE CLOTHING thoroughly after use, especially the insides of gloves.
TAKE OFF IMMEDIATELY all contaminated clothing.
KEEP IN ORIGINAL CONTAINER, tightly closed in a safe place.
WASH OUT CONTAINER THOROUGHLY, empty washings into spray tank and dispose of safely.
DO NOT RE-USE CONTAINER FOR ANY PURPOSE.

DIRECTIONS FOR USE

IMPORTANT:

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. 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.
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 water body, or within 5m of the top of a ditch which is dry at the time of application. Only apply to crops in flower once bees have finished foraging for the day.

To reduce effects on non-target insects or other arthropods:
For application to arable and vegetable crops using tractor-mounted boom sprayers:
The best available application technique, which minimises off-target drift, should be used.

CROP SPECIFIC INFORMATION

WINTER WHEAT, DURUM WHEAT, WINTER BARLEY, RYE, WINTER OATS, TRITICALE

Application interval: A minimal interval of 14 days must be observed between applications on wheat, barley, rye, oats and triticale.

• BARLEY YELLOW DWARF VIRUS (APHID VECTORS)

Apply 100 mL/ha in 200 litre water per ha
Timing for High Risk (virus prone) Areas:
a) Cereals sown in September: Apply a single MARKATE® 50 spray as a routine in the period mid-late October. 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.
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 MARKATE® 50, treatment can also be worthwhile if aphids carrying BYDV are present up to GS32.

WINTER AND SPRING WHEAT, DURUM WHEAT, WINTER AND SPRING BARLEY, RYE,

WINTER AND SPRING OATS, TRITICALE

Application interval: A minimal interval of 14 days must be observed between applications on wheat, barley, rye, oats and triticale.

• APHIDS ON THE EARS e.g. GRAIN APHID, ROSE-GRAIN APHID

(NOT ON TRITICALE)

Apply 100 mL/ha in 200–300 litre water per ha. (Use sufficient water volume to ensure thorough crop penetration.)

The optimum timing for application is after ear emergence (GS59). The latest time of application is before GS77. Apply according to official thresholds.

Notes: When MARKATE® 50 is used for control of aphids on the ear, some reduction of aphids on the flag leaf will occur.

• YELLOW CEREAL FLY (*Opomyza florum*)

Apply 100 mL/ha in 200 litre water 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.

WINTER AND SPRING OILSEED RAPE

Application interval: A minimal interval of 7 days must be observed between applications on combining winter and spring oilseed rape

• FLEA BEETLE

Apply 150 mL/ha in 200 litre water at first signs of attack. Repeat 10–14 days later if necessary.

• CABBAGE STEM FLEA BEETLE

Timing: Apply 100 mL/ha in 200 litres water/ha 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. Add a non-ionic surfactant adjuvant that is not an organosilicone in accordance with the manufacturer's instructions.

• POLLEN BEETLE

Apply 150 mL/ha in 200–300 litre water at the green/yellow bud stage according to specialist advice or if official thresholds are reached. Use sufficient water volume to ensure thorough crop penetration.

For information on the potential development and management of pyrethroid resistance in pollen beetle please consult the latest IRAG and HGCA guidance.

• SEED WEEVIL AND POD MIDGE

Apply 150 mL/ha in 200–300 litre water during the flowering period when seed weevil numbers reach the threshold for spraying. Use sufficient water volume to ensure thorough crop penetration. 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.

• APHIDS

Timing: Apply 150 mL/ha in 200 litre water/ha 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. Add a non-ionic surfactant adjuvant that is not an organosilicone in accordance with the manufacturer's instructions. MARKATE® 50 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.

WINTER AND SPRING FIELD BEANS: PEA AND BEAN WEEVIL

Application interval: A minimal interval of 7 days must be observed between applications on field bean.

For the reduction of leaf notching/feeding damage, apply 150 mL/ha in 200–300 L/ha if there is a risk of severe damage by adult weevils to the growing points of the crop in the early stages of growth. Use sufficient water volume to ensure thorough crop penetration. 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.

POTATOES: APHIDS

Application interval: A minimal interval of 7 days must be observed between applications on potatoes.

Apply 150 mL/ha in at least 400 L water: use sufficient water volume to ensure thorough crop penetration. MARKATE® 50 can also provide incidental control of other pests e.g. cutworms if the timing coincides with that for aphid control.

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 MARKATE® 50 in mixture with either pymetrozine or pirimicarb. Observe any label restrictions on the partner product.

Where it is suspected that forms of *Myzus persicae* tolerant to pirimicarb are present a mixture with pymetrozine is likely to provide the best control.

Ware crops: Use MARKATE® 50 for the control of *Macrosiphum euphorbiae* and other aphid pests. Where resistant forms of *Myzus persicae* are present or suspected MARKATE® 50 should not be used.

SUGAR BEET AND FODDER BEET

Application interval: A minimal interval of 7 days must be observed between applications on sugar beet and fodder beet.

• FLEA BEETLE

Apply 150 mL/ha in 200 litre water as soon as adult feeding damage is seen. Repeat if necessary.

• BEET LEAF MINER (MANGOLD FLY)

Apply 150 mL/ha in 200 litre water at egg hatch or according to specialist advice. Repeat if necessary.

• CUTWORM

Apply 150 mL/ha in 400-1000 litre water, according to specialist advice at egg hatch and repeat 10–14 days later. Use sufficient water volume to ensure thorough crop penetration. The latest time of application is eight weeks before harvest.

Note 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 pirimicarb (50% basis) at 280 g/ha.

PEAS (combining pea, vining pea, edible podded pea)

Application interval: A minimal interval of 7 days must be observed between applications on combining pea, vining pea and edible podded pea.

• PEAS & BEAN WEEVIL

For the reduction of leaf notching/feeding damage, apply 150 mL/ha in 200 litre water 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.

• PEA MOTH

Application dose: 100 mL/ha in 300–600 litre water, use sufficient water volume to ensure thorough crop penetration.

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

Apply to flowering crops at 100 mL/ha (see notes below) in 300–600 litre water according to specialist advice or when thresholds are reached. Repeat if necessary. Inspect the crop carefully, especially during the early stages of flowering. Use sufficient water volume to ensure thorough crop penetration.

Notes: MARKATE® 50 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 MARKATE® 50 in tank mixture with pirimicarb.

Where aphids are the only pest present and are well established throughout a crop canopy which is dense it is preferable to apply pirimicarb (50% basis) alone at 280 g/ha.

• PEA MIDGE

Timing: Apply at 150 mL/ha 200-400 litre water within 3-5 days of the first adult midges being found in the crop. Use sufficient water volume to ensure thorough crop penetration. 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.

PEARS: PEAR SUCKER

Application interval: A minimal interval of 14 days must be observed between applications on pear.

Apply 180 mL/ha in 200–2000 litres water (use sufficient water volume to ensure thorough crop penetration). 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 MARKATE® 50 at the same rate and repeat after 2–3 weeks if necessary.

Resistance: Pear Sucker resistant to one or more groups of insecticides are widespread. Where strains resistant to products containing pyrethroid insecticide occur, MARKATE® 50 is unlikely to give satisfactory control of this pest.

Where repeat treatment is necessary use different active ingredients.

BROCCOLI/CALABRESA, BRUSSELS SPROUT, CABBAGE, CAULIFLOWER

Application interval: A minimal interval of 7 days must be observed between applications on broccoli/Calabrese, Brussels sprout, cabbage and cauliflower.

• CATERPILLARS

Timing: Apply 100 mL/ha in 300–600 litres water/ha at first sign of attack. Use sufficient water volume to ensure thorough crop penetration. Consider applying to Brussels Sprouts through a drop-leg sprayer. Repeat if necessary. Add a non-ionic surfactant adjuvant that is not an organosilicone in accordance with the manufacturer's instructions.

• WHITEFLY

Timing: Apply 200 mL/ha in 300–600 litres water/ha at first sign of attack. Use sufficient water volume to ensure thorough crop penetration. Consider applying to Brussels Sprouts through a drop-leg sprayer. Repeat 10–14 days later if necessary. 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 a product based on pirimicarb at a concentration of 140 g a.i./ha.

CARROT AND PARSNIP

Application interval: A minimal interval of 7 days must be observed between applications on field carrot and parsnip.

• CUTWORM

Timing: Apply 150 mL/ha in 400-1000 litres water/ha at egg hatch or according to specialist advice and repeat 10–14 days later. 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:** MARKATE® 50 is active against adult flies, but not larvae in the soil or carrot root. The first application of MARKATE® 50 should be applied one week before the forecast of 10% (first) egg-laying.

Contact 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.

MARKATE® 50 should be applied at 300 mL/ha using 300-600 litres water/ha. The maximum total dose is 900 mL product/ha crop. Apply as a medium to fine spray to achieve good coverage of the foliage.

MIXING AND SPRAYING

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.

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 the Code of Practice for Using Plant Protection Products: 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).

COMPATIBILITY

Before using any tank mixture, consult and comply with the recommendations of the partner products. Each product should be added separately to the bulk of the water in the spray tank and thoroughly mixed before adding the next chemical.

Always use constant agitation of the sprayer tank during mixing, transportation and application. Spray immediately.

Other than when mixing with trace elements, always add MARKATE® 50 to the spray tank last.

RESISTANCE MANAGEMENT

Strains of some aphid species are resistant to many aphicides. Especially for applications to potatoes, resistance issues should be considered. Where aphids resistant to products containing lambda-cyhalothrin occur, MARKATE® 50 is unlikely to give satisfactory control and repeat treatments are likely to result in lower levels of control.

The following measures are proposed to avoid further resistance development:

- Be vigilant for resistance but be aware that poor control can sometimes be due to poor spray coverage. Monitor treatment efficacy a few days after application.
- Do not make repeat applications of any insecticide if it appears not to work at full rate and it has been applied correctly, use an alternative from a different chemical class
- Do not apply insecticides below label rates as this can lead to a subsequent increase in resistance problems
- Tank mixes should contain insecticides from different chemical classes and be applied at the full recommended rates

