



syngenta.

GROUP 3 INSECTICIDE



Product registration number: MAPP 12629 UFI: CNW4-70WA-E00R-66XA

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, carrot, parsnip and pears.

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

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

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This product label is compliant with the CPA Voluntary Initiative (VI) guidance.



1 Litre

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

#### Warning

**Harmful if swallowed or inhaled.**

**May cause an allergic skin reaction.**

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

Avoid breathing mist or vapours.

Wash skin thoroughly after handling.

Wear protective gloves.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

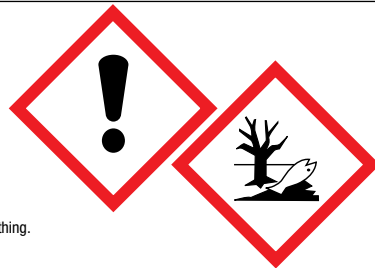
Call a POISON CENTER/ doctor if you feel unwell.

If skin irritation or rash occurs: Get medical advice/attention.

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.

To avoid risks to human health and the environment comply with the instructions for use. **MAPP 12629 UFI: CNW4-70WA-E00R-66XA**



#### 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.

**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
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, carrot, parsnip and potato.

10 days for Brussels sprout, cabbage, cauliflower, broccoli and 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 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 5 m OF THE FIELD BOUNDARY<sup>1</sup>. For application to other arable and vegetable crops using tractor-mounted boom sprayers: Avoid spraying within 5 m of the field boundary<sup>1</sup>. For application to pears using broadcast air-assisted sprayers: The best available application technique, which minimises off-target drift, should be used. <sup>1</sup> 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, HALLMARK with Zeon Technology is unlikely to give satisfactory control. Repeat treatments are likely to result in lower levels of control.

## GENERAL INFORMATION

HALLMARK with Zeon Technology acts by contact, therefore ensure thorough spray cover for good control.

Processed Crops: Taint tests have shown that HALLMARK with Zeon Technology 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 HALLMARK with Zeon Technology 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 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 HALLMARK with Zeon Technology, 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 HALLMARK with Zeon Technology 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

200-300 l/ha (Use sufficient water volume to ensure thorough crop penetration.)

## WINTER WHEAT

<b>Yellow cereal fly</b> ( <i>Opomyza florum</i> )	
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.	
<b>RATE OF USE</b> 50 ml/ha	<b>WATER VOLUME</b> 200 l/ha

## WINTER & SPRING WHEAT

<b>Orange Wheat Blossom Midge</b> ( <i>Sitodiplosis mosellana</i> )	
HALLMARK with Zeon Technology can provide a reduction in damage in susceptible crops associated with this pest. <b>Timing:</b> 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 HALLMARK with Zeon Technology 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.	
<b>RATE OF USE</b> 50 ml/ha	<b>WATER VOLUME</b> 200 l/ha
<b>Gout Fly</b> ( <i>Chlorops tumilionis</i> )	
<b>Timing:</b> 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

<b>Flea Beetle</b>	
Timing: Apply at first signs of attack. Repeat 10-14 days later if necessary.	
<b>RATE OF USE</b> 75 ml/ha	<b>WATER VOLUME</b> 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, i.e. from November onwards, may be less effective in controlling the virus if aphid migration and virus transmission had begun several weeks earlier. HALLMARK with Zeon Technology 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.	
<b>RATE OF USE</b> 75 ml/ha	<b>WATER VOLUME</b> 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)
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## 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)
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**WINTER AND SPRING FIELD BEANS**

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

**POTATOES**

<b>Aphids</b>	
<p>Timing:</p> <p><b>Ware crops:</b> Use HALLMARK with Zeon Technology for the control of Macrosiphum euphorbiae and other aphid pests. Where resistant forms of Myzus persicae are present or suspected HALLMARK with Zeon Technology should not be used. HALLMARK with Zeon Technology can also provide incidental control of other pests e.g. cutworms if the timing coincides with that for aphid control.</p>	
<b>RATE OF USE</b> 75 ml/ha	<b>WATER VOLUME</b> At least 400 l/ha (Use sufficient water volume to ensure thorough crop penetration)

**SUGAR BEET**

<b>Flea Beetle</b>	
Timing: Apply as soon as adult feeding damage is seen. Repeat if necessary.	
<b>RATE OF USE</b> 75 ml/ha	<b>WATER VOLUME</b> 200 l/ha

<b>Beet Leaf Miner (Mangold Fly)</b>	
Timing: Apply at egg hatch or according to specialist advice. Repeat if necessary.	
<b>RATE OF USE</b> 75 ml/ha	<b>WATER VOLUME</b> 200 l/ha
<b>Cutworm</b>	
<p>Timing: Apply according to specialist advice at egg hatch and repeat 10-14 days later.</p> <p>The latest time of application is eight weeks before harvest.</p>	
75 ml/ha	400-1000 l/ha (Use sufficient water volume to ensure thorough crop penetration).

**BRUSSELS SPROUT, CABBAGE, CAULIFLOWER AND BROCCOLI (INCLUDING CALABRESSE)**

<b>Caterpillars</b>	
Timing: Apply at first sign of attack. Repeat if necessary.	
<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. 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.
<b>Whitefly</b>	
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**

<b>Pea &amp; Bean Weevil</b>	
<p>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.</p> <p>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.</p>	
<b>RATE OF USE</b> 75 ml/ha	<b>WATER VOLUME</b> 200 l/ha
<b>Pea Moth</b>	
<p>Timing: <b>Combining Peas</b> - 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.</p> <p><u>Edible podded and Vining Peas</u> - Crops which are in full flower should be treated with a single spray at the calculated date.</p>	
50 ml/ha	300 - 600 l/ha (Use sufficient water volume to ensure thorough crop penetration.)

<b>Pea Aphid</b>	
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: HALLMARK with Zeon Technology 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 HALLMARK with Zeon Technology 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.	

<b>Pea Midge</b>	
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.	
<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>	
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 HALLMARK with Zeon Technology at the same rate and repeat after 2-3 weeks if necessary. If predators are present, use 'Dimilin' WP.	
<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.)
Resistance: Pear suckers resistant to one or more groups of insecticides are widespread. Where strains resistant to products containing pyrethroid insecticide occur, HALLMARK with Zeon Technology is unlikely to give satisfactory control of this pest. Where repeat treatment is necessary use different active ingredients.	

## CARROTS AND PARSNIPS

<b>Cutworm</b>	
Timing: 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)
<b>Carrot Fly (<i>Psila rosae</i>)</b>	
For useful levels of control of damage to roots caused by second generation.	
Timing: HALLMARK with Zeon Technology is active against adult flies, but not larvae in the soil or carrot root. The first application of HALLMARK with Zeon Technology 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.	
<b>RATE OF USE</b> 150 ml product per hectare <b>MAXIMUM TOTAL DOSE</b> 450 ml product/ha/crop	<b>WATER VOLUME</b> 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 HALLMARK with Zeon Technology 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).

**Section 6 of the Health and Safety at Work Act**  
**Additional Product Safety Information**

(This section does not form part of the product label under the Plant Protection Product Regulations 1995.)

The product label provides information on a specific pesticidal use of the product; do not use otherwise, unless you have assessed any potential hazard involved, the safety measures required and that the particular use has 'extensions of use' approval or is otherwise permitted under the Plant Protection Product Regulations 1995.

The information on this label is based on the best available information including data from test results.

**Safety Data Sheet - V14.1**

**1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY/ UNDERTAKING**

**1.1 Product Identifier**

Trade name: HALLMARK WITH ZEON TECHNOLOGY

Design code: A12690B

Product Registration Number: MAPP 12629

Unique Formula Identifier (UFI): CNW4-70WA-E00R-66XA

**1.2 Relevant Identified Uses of the substance or mixture and uses advised against**

Use of the Substance/Mixture: Insecticide

Recommended restrictions on use: professional use

**1.3 Details of the supplier of the safety data sheet**

Company: Syngenta UK Limited, CPC4, Capital Park, Fulbourn, Cambridge CB21 5XE, United Kingdom

Telephone: +44 (0) 1223 883400

Telefax: +44 (0) 1223 882195

E-mail address of person responsible for the SDS: product.technical\_enquiries@syngenta.com

**1.4 Emergency telephone number**

Emergency phone No.: +44 1484 538444

**2. HAZARDS IDENTIFICATION**

**2.1 Classification of the substance or mixture**

**Classification (REGULATION (EC) No 1272/2008)**

Acute toxicity, Category 4 - H302: Harmful if swallowed.

Acute toxicity, Category 4 - H332: Harmful if inhaled.

Skin sensitisation, Category 1 - H317: May cause an allergic skin reaction.

Short-term (acute) aquatic hazard, Category 1 - H400: Very toxic to aquatic life.

Long-term (chronic) aquatic hazard, Category 1 - H410: Very toxic to aquatic life with long lasting effects.

**2.2 Label elements**

**Labelling (REGULATION (EC) No 1272/2008)**

**Hazard pictograms**



Signal Word

Warning

<b>Hazard Statements</b>	H302+H332	Harmful if swallowed or if inhaled.
	H317	May cause an allergic skin reaction.
	H410	Very toxic to aquatic life with long lasting effects.
<b>Precautionary Statements</b>	P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
	P264	Wash skin thoroughly after handling.
	P280	Wear protective gloves.
	P302+P352	IF ON SKIN: Wash with plenty of soap and water.
	P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
	+P312	
	P333+P313	If skin irritation or rash occurs: Get medical advice/ attention.
	P391	Collect spillage
	P501	Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty triple rinsed clean containers which can be disposed of as non-hazardous waste.

**Additional Labelling**

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

**2.3 Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

**3.2 Mixtures**

**Hazardous Components**

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
lambda-cyhalothrin (ISO)	91465-08-6 415-130-7 607-252-00-6	Acute Tox. 3; H301 Acute Tox. 2; H330 Acute Tox. 3; H311 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10,000 M-Factor (Chronic aquatic toxicity): 10,000	>= 2.5 - < 10
hydrocarbons, C10-C13, aromatics, <1% naphthalene	Not Assigned 01-2119451097-39-xxxx	Asp. Tox. 1; H304 Aquatic Chronic 2; H411 EUH066	>= 2.5 - < 10

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6 01-2120761540- 60-xxxx	Acute Tox.4; H302 Skin Irrit.2; H315 Eye Dam.1; H318 Skin Sens.1; H317 Aquatic Acute1; H400 Aquatic Chronic 2; H411 M-Factor (Acute aquatic toxicity): 1 specific concentration limit Skin Sens. 1; H317 >= 0.05 %	>= 0.05 - < 0.1

For explanation of abbreviations see section 16.

#### 4. FIRST-AID MEASURES

##### 4.1 Description of first aid measures

**General advice:** Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.

**If inhaled:** Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or poison control centre immediately.

**In case of skin contact:** Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

**In case of eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

**If swallowed:** If swallowed, seek medical advice immediately and show this container or label.

Do NOT induce vomiting.

##### 4.2 Most important symptoms and effects, both acute and delayed

Symptoms: Aspiration may cause pulmonary oedema and pneumonitis. Skin contact paresthesia effects (itching, tingling, burning or numbness) are transient, lasting up to 24 hours.

##### 4.3 Indication of any immediate medical attention and special treatment needed

Treatment: Do not induce vomiting: contains petroleum distillates and/or aromatic solvents. Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

##### 5.1 Extinguishing media

**Extinguishing media - small fires:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Extinguishing media - large fires:** Use alcohol-resistant foam or water spray.

Unsuitable extinguishing media: Do not use a solid water stream as it may scatter and spread fire.

##### 5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting: As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health.

#### 5.3 Advice for fire-fighters

Special protective equipment for firefighters: Wear full protective clothing and self-contained breathing apparatus.

Further information: Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

#### 6. ACCIDENTAL RELEASE MEASURES

##### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to protective measures listed in sections 7 and 8.

##### 6.2 Environmental precautions

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

##### 6.3 Methods and materials for containment and cleaning up

Methods for cleaning up: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Clean contaminated surface thoroughly. Clean with detergents. Avoid solvents. Retain and dispose of contaminated wash water.

##### 6.4 Reference to other sections

For disposal considerations see section 13., Refer to protective measures listed in sections 7 and 8.

#### 7. HANDLING AND STORAGE

##### 7.1 Precautions for safe handling

Advice on safe handling: No special protective measures against fire required. Avoid contact with skin and eyes. When using do not eat, drink or smoke. For personal protection see section 8.

##### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingsuffs.

##### 7.3 Specific end uses

Specific use(s): For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

##### 8.1 Control parameters

###### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
propane-1,2-diol	57-55-6	TWA (particles)	10 mg/m <sup>3</sup>	GB EH40
		TWA (total (vapour and particles))	150 ppm 474 mg/m <sup>3</sup>	GB EH40
lambda-cyhalothrin (ISO)	91465-08-6	TWA	0.04 mg/m <sup>3</sup> (Skin)	Syngenta
hydrocarbons, C10-C13, aromatics, <1% naphthalene	Not Assigned	TWA	8 ppm 50 mg/m <sup>3</sup>	Supplier



**Derived No Effect Level (DNEL):**

Substance name	End Use	Exposure routes	Potential health effects	Value
propane-1,2-diol	Workers	Inhalation	Long-term systemic effects	168 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term local effects	10 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term systemic effects	30 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	10 mg/m <sup>3</sup>
hydrocarbons, C10-C13, aromatics, <1% naphthalene	Workers	Inhalation	Long-term systemic effects	151 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	12.5 mg/kg
	Consumers	Inhalation	Long-term systemic effects	32 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects	7.5 mg/kg
1,2-benzisothiazol-3(2H)-one	Consumers	Oral	Long-term systemic effects	7.5 mg/kg
	Workers	Inhalation	Long-term systemic effects	6.81 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	0.966 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.2 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects	0.345 mg/kg

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

Substance name	Environmental Compartment	Value
propane-1,2-diol	Fresh water	260 mg/l
	Marine water	26 mg/l
	Intermittent use/release	183 mg/l
	Sewage treatment plant	20000 mg/l
	Marine sediment	57.2 mg/kg
1,2-benzisothiazol-3(2H)-one	Fresh water sediment	572 mg/kg
	Soil	50 mg/kg
	Fresh water	0.00403 mg/l
	Marine water	0.000403 mg/l
	Sewage treatment plant	1.03 mg/l
	Fresh water sediment	0.0499 mg/kg
	Marine sediment	0.00499 mg/kg
	Freshwater - intermittent	0.0011 mg/l
	Marine water - intermittent	0.000110 mg/l
	Soil	3 mg/kg

**8.2 Exposure controls****Engineering Measures:**

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. Maintain air concentrations below occupational exposure standards. Where necessary, seek additional occupational hygiene advice.

**Personal protective equipment**

**Eye protection:** No special protective equipment required.

**Hand protection**

**Material:** Nitrile rubber

**Break through time:** > 480 min

**Glove length:** 0.5 mm

**Remarks:** Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

**Skin and body protection:** Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Remove and wash contaminated clothing before re-use.

**Wear as appropriate:** Impervious clothing

**Respiratory protection:** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Suitable respiratory equipment: Respirator with a half face mask.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

**Protective measures:** The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice.

**9. PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

Appearance:	suspension
Colour:	beige to cream
Odour:	aromatic, weak
Odour Threshold:	No data available
pH:	4 - 8 (25 °C) Concentration: 1 % w/v
Melting point/range:	No data available
Boiling point/boiling range:	100 °C
Flash point:	Method: Pensky-Martens closed cup, does not flash
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper explosion limit/Upper flammability limit:	No data available
Lower explosion limit/Lower flammability limit:	No data available
Vapour pressure:	No data available
Relative vapour density:	No data available
Density:	1.057 g/cm <sup>3</sup> (20 °C)
Solubility in other solvents:	completely miscible
	Solvent: Water
Partition Coefficient n-octanol/water:	No data available
Autoignition temperature:	465 °C

Viscosity, dynamic:	107 mm <sup>2</sup> /s (20 °C)
Explosive properties:	Not explosive
Oxidizing properties:	The substance or mixture is not classified as oxidizing.
<b>9.2 Other Information</b>	
Surface tension:	37.0 mN/m, 20 °C
Particle size:	No data available

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity:

None reasonably foreseeable.

### 10.2 Chemical stability

Hydrogen cyanide gas may develop in the headspace of containers at normal storage temperatures.

### 10.3 Possibility of hazardous reactions

Hazardous reactions: No dangerous reaction known under conditions of normal use.

### 10.4 Conditions to avoid

Conditions to avoid: None known.

### 10.5 Incompatible materials

Materials to avoid: None known.

### 10.6 Hazardous decomposition products

Hazardous decomposition products: hydrogen cyanide

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Information on likely routes of exposure: Ingestion, Inhalation, Skin contact, Eye contact

#### Acute toxicity

##### Product:

Acute oral toxicity:	LD50 (Rat, male): 334 mg/kg LD50 (Rat, female): 404 mg/kg (Rat, male and female): > 2.5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The component/mixture is moderately toxic after short term inhalation., The substance/mixture is not toxic on inhalation as defined by dangerous goods regulations. Remarks: The toxicological data has been taken from products of similar composition.
Acute inhalation toxicity:	LD50 (Rat, male and female): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity
Acute dermal toxicity:	LD50 (Rat, male and female): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

##### Components:

#### lambda-cyhalothrin (ISO):

Acute oral toxicity:	LD50 (Rat, female): 56 mg/kg
Acute inhalation toxicity:	LC50 (Rat, male and female): 0.06 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity:	LD50 (Rat, male): 632 mg/kg

#### 1,2-benzisothiazol-3(2H)-one:

Acute oral toxicity:	LD50 (Rat, male): 670 mg/kg
Acute dermal toxicity:	LD50 (Rat, male and female): > 2,000 mg/kg

Assessment: The substance or mixture has no acute dermal toxicity

#### Skin corrosion/irritation

##### Product:

Species:	Rabbit
Result:	No skin irritation

##### Components:

#### lambda-cyhalothrin (ISO):

Species:	Rabbit
Result:	No skin irritation
hydrocarbons, C10-C13, aromatics, <1% naphthalene:	Result: Repeated exposure may cause skin dryness or cracking.

#### 1,2-benzisothiazol-3(2H)-one:

Species:	Rabbit
Result:	Mild skin irritation

#### Serious eye damage/eye irritation

##### Product:

Species:	Rabbit
Result:	No eye irritation

##### Components:

#### lambda-cyhalothrin (ISO):

Species:	Rabbit
Result:	No eye irritation
1,2-benzisothiazol-3(2H)-one:	Result: Risk of serious damage to eyes.

#### Respiratory or skin sensitisation

##### Product:

Species:	Humans
Result:	May cause sensitisation by skin contact.
Test Type:	Buehler Test
Species:	Guinea pig
Result:	Does not cause skin sensitisation.

##### Components:

#### lambda-cyhalothrin (ISO):

Test Type:	Maximisation Test
Species:	Guinea pig
Result:	Does not cause skin sensitisation.
Test Type:	Local lymph node assay (LLNA)
Species:	Mouse
Result:	Does not cause skin sensitisation.

#### 1,2-benzisothiazol-3(2H)-one:

Result: Probability or evidence of skin sensitisation in humans

## Germ cell mutagenicity

### Components:

#### lambda-cyhalothrin (ISO):

Germ cell mutagenicity- Assessment: Animal testing did not show any mutagenic effects.

#### 1,2-benzisothiazol-3(2H)-one:

Germ cell mutagenicity- Assessment: Weight of evidence does not support classification as a germ cell mutagen.

## Carcinogenicity

### Components:

#### lambda-cyhalothrin (ISO):

Carcinogenicity - Assessment: No evidence of carcinogenicity in animal studies.

## Reproductive toxicity

### Components:

#### lambda-cyhalothrin (ISO):

Reproductive toxicity - Assessment: No toxicity to reproduction

## STOT - single exposure

### Components:

#### lambda-cyhalothrin (ISO):

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

## STOT - repeated exposure

### Components:

#### lambda-cyhalothrin (ISO):

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

## Aspiration toxicity

### Components:

#### hydrocarbons, C10-C13, aromatics, <1% naphthalene:

May be fatal if swallowed and enters airways.

## Further information

### Product:

Remarks: May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.

### Components:

#### lambda-cyhalothrin (ISO):

Remarks: May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

#### Product:

Toxicity to fish: LC50 (*Cyprinus carpio* (Carp)): 0.012 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (*Daphnia magna* (Water flea)): 0.0026 mg/l  
Exposure time: 48 h

#### Components:

#### lambda-cyhalothrin (ISO):

Toxicity to fish: LC50 (*Leuciscus idus* (Golden orfe)): 0.000078 mg/l  
Exposure time: 96 h

LC50 (*Ictalurus punctatus* (channel catfish)): 0.00016 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:

EC50 (*Daphnia magna* (Water flea)): 0.00036 mg/l  
Exposure time: 48 h  
LC50 (*Americamysis*): 0.000007 mg/l  
Exposure time: 48 h  
EC50 (*Hyalella azteca* (Amphipod)): 0.000002 mg/l  
Exposure time: 48 h  
ErC50 (*Pseudokirchneriella subcapitata* (green algae)): > 0.31 mg/l  
Exposure time: 96 h  
EC50 (activated sludge): > 100 mg/l  
Exposure time: 3 h

Toxicity to algae/aquatic plants:

M-Factor (Acute aquatic toxicity):

Toxicity to microorganisms:

Toxicity to fish  
(Chronic toxicity):

NOEC: 0.031 µg/l  
Exposure time: 300 d  
Species: *Pimephales promelas* (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates  
(Chronic toxicity):

NOEC: 0.002 µg/l  
Exposure time: 21 d  
Species: *Daphnia magna* (Water flea)  
NOEC: 0.00022 µg/l  
Exposure time: 28 d  
Species: *Americamysis*

M-Factor (Chronic aquatic toxicity):

#### hydrocarbons, C10-C13, aromatics, <1% naphthalene:

Toxicity to fish: LL50 (*Oncorhynchus mykiss* (rainbow trout)): 3.6 mg/l  
Exposure time: 96 h

Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates: EL50 (*Daphnia magna* (Water flea)): 1.1 mg/l  
Exposure time: 48 h

Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae/aquatic plants: EL50 (*Raphidocelis subcapitata* (freshwater green alga)): 7.9 mg/l  
End point: Growth rate  
Exposure time: 72 h

Remarks: Information given is based on data obtained from similar substances.

NOELR (*Raphidocelis subcapitata* (freshwater green alga)): 0.22 mg/l  
End point: Growth rate  
Exposure time: 72 h

Remarks: Information given is based on data obtained from similar substances.

**Ecotoxicology Assessment:** Chronic aquatic toxicity: Toxic to aquatic life with long lasting effects.

#### 1,2-benzisothiazol-3(2H)-one:

Toxicity to fish: LC50 (*Oncorhynchus mykiss* (rainbow trout)): 2.18 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 2.94 mg/l  
Exposure time: 48 h  
Toxicity to algae/aquatic plants: ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.15 mg/l  
Exposure time: 72 h  
EC10 (Raphidocelis subcapitata (freshwater green alga)): 0.04 mg/l  
End point: Growth rate  
Exposure time: 72 h  
M-Factor (Acute aquatic toxicity): 1  
Toxicity to fish (Chronic toxicity): NOEC: 0.3 mg/l  
Exposure time: 28 d  
Species: Oncorhynchus mykiss (rainbow trout)  
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC: 1.7 mg/l  
Exposure time: 21 d  
Species: Daphnia (water flea)

## 12.2 Persistence and degradability

### Components:

#### lambda-cyhalothrin (ISO):

Biodegradability: Result: Not readily biodegradable.  
Stability in water: Degradation half life (DT50): 7 d  
Remarks: Product is not persistent.

#### hydrocarbons, C10-C13, aromatics, <1% naphthalene:

Biodegradability: Result: Readily biodegradable.  
**1,2-benzisothiazol-3(2H)-one:**  
Biodegradability: Result: rapidly degradable

## 12.3 Bioaccumulative potential:

### Components:

#### lambda-cyhalothrin (ISO):

Bioaccumulation: Remarks: Lambda-cyhalothrin bioaccumulates.

#### 1,2-benzisothiazol-3(2H)-one:

Bioaccumulation: Remarks: Bioaccumulation is unlikely.

## 12.4 Mobility in soil:

### Components:

#### lambda-cyhalothrin (ISO):

Distribution among environmental compartments: Remarks: immobile  
Stability in soil: Dissipation time: 56 d. Percentage dissipation: 50 % (DT50).  
Remarks: Product is not persistent

## 12.5 Results of PBT and vPvB assessment

### Product:

Assessment: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### Components:

#### lambda-cyhalothrin (ISO):

Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

#### 1,2-benzisothiazol-3(2H)-one:

Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to

be very persistent and very bioaccumulating (vPvB).

## 12.6 Endocrine disrupting properties

### Product:

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Product:** Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.  
**Contaminated packaging:** Empty remaining contents. Triple rinse containers. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

## 14. TRANSPORT INFORMATION

### 14.1 UN number

ADR	RID	IMDG	IATA
UN 3082	UN 3082	UN 3082	UN 3082

### 14.2 UN proper shipping name

**ADR :** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

(LAMBDA-CYHALOTHRIN AND SUBSTITUTED BENZENOID HYDROCARBONS)

**RID :** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

(LAMBDA-CYHALOTHRIN AND SUBSTITUTED BENZENOID HYDROCARBONS)

**IMDG:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

(LAMBDA-CYHALOTHRIN AND SUBSTITUTED BENZENOID HYDROCARBONS)

**IATA :** Environmentally hazardous substance, liquid, n.o.s.

(LAMBDA-CYHALOTHRIN AND SUBSTITUTED BENZENOID HYDROCARBONS)

### 14.3 Transport hazard class(es)

ADR	RID	IMDG	IATA
9	9	9	9

### 14.4 Packing group

#### ADR

Packing group : III

Classification Code : M6

Hazard Identification Number : 90

Labels : 9

Tunnel restriction code : (-)

Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

#### RID

Packing group : III

Classification Code : M6

Hazard Identification Number : 90

Labels : 9

Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

#### IMDG

Packing group : III

Labels : 9

EmS Code : F-A, S-F

Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

#### IATA (Cargo)

Packing instruction (cargo aircraft): 964

Packing instruction (LQ): Y964

Packing group: III

Labels: Miscellaneous

Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

#### IATA (Passenger)

Packing instruction (passenger aircraft): 964

Packing instruction (LQ): Y964

Packing group: III

Labels: Miscellaneous

Remarks: This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

#### 14.5 Environmental hazards

	ADR	RID
	Environmentally hazardous: yes	Environmentally hazardous: yes
IMDG	IATA (Passenger)	IATA (Cargo)
Marine pollutant: yes	Environmentally hazardous: yes	Environmentally hazardous: yes

#### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

#### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### 15. REGULATORY INFORMATION

#### 15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17): Conditions of restriction for the following entries should be considered: Number on list 3

UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation: Not applicable

The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain): Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not applicable

UK REACH List of substances subject to authorisation (Annex XIV): Not applicable

GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation: Not applicable

Control of Major Accident Hazards Regulations 2015 (COMAH) E1 ENVIRONMENTAL HAZARDS

#### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

### 16. OTHER INFORMATION

#### Full text of H-Statements

H301	Toxic if swallowed
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H330	Fatal if inhaled
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

#### Full text of other abbreviations

Acute Tox.:	Acute toxicity
Aquatic Acute:	Acute aquatic toxicity
Aquatic Chronic:	Chronic aquatic toxicity
Asp. Tox.:	Aspiration hazard
Eye Dam.:	Serious eye damage
Skin Irrit.:	Skin irritation
Skin Sens.:	Skin sensitisation
GB EH40:	UK. EH40 WEL - Workplace Exposure Limits
Syngenta:	Syngenta Occupational Exposure Limit
GB EH40 / TWA:	Long-term exposure limit (8-hour TWA reference period)
Syngenta / TWA:	Time weighted average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals

Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

#### Further information

##### Classification of the mixture: Classification procedure:

Acute Tox. 4	H302	Based on product data or assessment
Acute Tox. 4	H332	Based on product data or assessment
Skin Sens. 1	H317	Based on product data or assessment
Aquatic Acute 1	H400	Based on product data or assessment
Aquatic Chronic 1	H410	Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



# Hallmark Zeon®

syngenta.

**GROUP 3 INSECTICIDE**



**Product registration number:** MAPP 12629 **UFI:** CNW4-70WA-E00R-66XA

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, carrot, parsnip and pears.

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

Syngenta UK Limited  
CPC4, Capital Park, Fulbourn, Cambridge, CB21 5XE.  
Tel: Cambridge (01223) 883400

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

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This product label is compliant with the CPA Voluntary Initiative (VI) guidance.



# 1 Litre

Product names marked © or ™, the ALLIANCE FRAME the SYNGENTA Logo and the PURPOSE ICON are Trademarks of a Syngenta Group Company

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

### Warning

**Harmful if swallowed or inhaled.**

**May cause an allergic skin reaction.**

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

Avoid breathing mist or vapours.

Wash skin thoroughly after handling.

Wear protective gloves.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

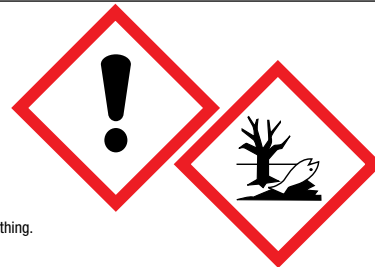
Call a POISON CENTER/ doctor if you feel unwell.

If skin irritation or rash occurs: Get medical advice/attention.

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.

To avoid risks to human health and the environment comply with the instructions for use. **MAPP 12629 UFI: CNW4-70WA-E00R-66XA**



### 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.

