Stealth®

syngenta

GROUP 3 INSECTICIDE

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.

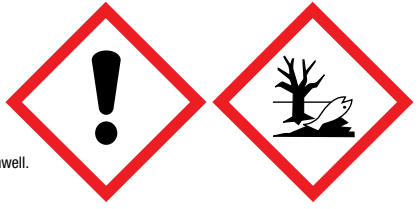
500ml

L1088946 IREL/05A PPE 4161267

STEALTH® **FOR PROFESSIONAL USE ONLY**

To avoid risks to human health and the environment comply with the instructions for use.
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 dust/fume/gas/mist/vapours/spray.
Wear protective gloves.
Wash skin thoroughly after handling.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE/ doctor if you feel unwell.
If skin irritation occurs: Get medical advice/attention.
Collect spillage.

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.

PCS No: 06468 **UFI:** RNC3-A02E-7003-ED68

Authorisation Holder	**Marketing Company**
Syngenta UK Limited CPC4, Capital Park, Fulbourn, Cambridge, CB21 5XE Tel: +44 (0) 1223 883400	Syngenta Ireland Ltd Block 6, Cleaboy Business Park, Old Kilmeaden Road, Waterford. Tel: (051) 377203

L1088946 IREL/05A PPE 4161267

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, carrots, parsnips and pear.

Crop	Maximum individual dose	Maximum number of applications	Minimum interval betweeen 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 (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 harvset	Pea and bean weevil and aphids
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
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 muust 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.
When applying by tractor mounted/trailed sprayer: To protect aquatic organisms respect an unsprayed buffer zone of 5m to surface water bodies.
When applying by broadcast air-assisted sprayer: To protect aquatic organisms respect an unsprayed buffer zone of 25m to surface water bodies.
When applying by knapsack/handheld sprayer: To protect aquatic organisms respect an unsprayed buffer zone of 1m to surface water bodies.
To protect non-target insects/anthropods respect an unsprayed buffer zone of 5m to non-crop land.
Dangerous to bees. To protect bees and pollinating insects do not apply to crop plants when in flower. Do not use where bees are actively foraging. Do not apply when flowering weeds are present.

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

Timing:

a) Cereals emerging during September: Apply a single STEALTH 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 STEALTH, treatment can also be worthwhile if aphids carrying BYDV are present up to GS 32.

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 STEALTH 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 (*Opomyza florum*)	**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 (*Sitodiplosis mosellana*)	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 (*Chlorops tumilionis*)	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** 75 ml/ha	**WATER VOLUME** 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. STEALTH 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 (ie. 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.)
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
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.)
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)
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: STEALTH 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 STEALTH 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)
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** 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.		
Carrot Fly	150 ml/ha	200-300 l/ha
Timing: STEALTH 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. STEALTH 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 (WARE CROPS)

Aphids	**RATE OF USE** 75 ml/ha	**WATER VOLUME** At least 400 l/ha (see note below)
Timing: Ware crops: Apply according to specialist advice or as soon as aphids reach threshold levels. Repeat if necessary. Note: Use sufficient water volume to ensure thorough crop penetration.		
MAXIMUM TOTAL DOSE: 300 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.		
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)
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.		
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.		
MAXIMUM TOTAL DOSE: 150 ml per hectare per crop.		

PEARS

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

DIRECTIONS FOR USE

STEALTH 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 STEALTH 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, STEALTH 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 STEALTH develop.

Processed crops - Taint tests have shown that STEALTH 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.

Compatibilty – 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.

ADDITIONAL PRODUCT SAFETY INFORMATION
This section does not form part of the approved product label.

SAFETY DATA SHEET - V13.1
1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY/ UNDERTAKING
1.1 Product Identifier
Trade name: STEALTH
Design code: A12690B
Product Registration Number: PCS 06468
1.2 Relevant Identified Uses of the substance or mixture and uses advised against
Use of the Substance/Mixture: Insecticide
1.3 Details of the supplier of the safety data sheet
Company: Syngenta Ireland Limited
Block 6 Cleaboy Business Park, Old Kilmeaden Road, Waterford, Ireland
Telephone: (051) 377203
Telefax: (051) 354748
E-mail address of person responsible for the SDS: cropsales.ie@syngenta.com
1.4 Emergency telephone number
Emergency phone No.: +44 (0) 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	
Hazard Statements	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.
Supplemental Hazard Statements	EUH401	To avoid risks to human health and the environment comply with the instructions for use.
Precautionary Statements	P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
	P264	Wash skin thoroughly after handling.
	P280	Wear protective gloves.
	P304+P340+ P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
	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.

Hazardous components which must be listed on the label:
- lambda-cyhalothrin (ISO)
- 1,2-benzisothiazol-3(2H)-one

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
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	>= 2.5 - < 10

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Solvent naphtha (petroleum), heavy arom.; Kerosine -unspecified	64742-94-5 265-198-5 649-424-00-3 01-2119451151-53	Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 2.5 - < 10
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6	Acute Tox.4; H302 Skin Irrit.2; H315 Eye Dam.1; H318 Skin Sens.1; H317 Aquatic Acute1; H400	>= 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 feedingstuffs.

Further information on storage stability: Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

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/m³	GB EH40
Further information: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used				
	57-55-6	TWA (Total vapour and particles)	150 ppm 474 mg/m³	GB EH40
Further information: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used				
lambda-cyhalothrin (ISO)	91465-08-6	TWA	0.04 mg/m³ (Skin)	Syngenta
Solvent naphtha (petroleum), heavy arom.; Kerosine -unspecified	64742-94-5	TWA	8 ppm 50 mg/m³	Supplier

Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
hydrogen cyanide	74-90-8	TWA	0.9 ppm 1 mg/m³ (Cyanide)	2017/164/EU
Further information: Identifies the possibility of significant uptake through the skin, Indicative				
		STEL	4.5 ppm 5 mg/m³ (Cyanide)	2017/164/EU
Further information	Identifies the possibility of significant uptake through the skin, Indicative			

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
		STEL	10 ppm 11 mg/m³	GB EH40
Further information: Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
propane-1,2-diol	Workers	Inhalation	Long-term systemic effects	168 mg/m³
	Consumers	Inhalation	Long-term local effects	10 mg/m³
	Consumers	Inhalation	Long-term systemic effects	30 mg/m³
	Workers	Inhalation	Long-term local effects	10 mg/m³
Solvent naphtha (petroleum), heavy arom.; Kerosine -unspecified	Industrial use	Dermal	Long-term systemic effects	12.5 mg/kg
	Industrial use	Inhalation	Long-term systemic effects	151 mg/m³
	Consumers	Dermal	Long-term systemic effects	7.5 mg/kg
	Consumers	Oral	Long-term systemic effects	32 mg/m³
	Consumers	Inhalation	Long-term systemic effects	7.5 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
	Fresh water sediment	572 mg/kg
	Soil	50 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. The selected protective gloves have to satisfy the specifica-tions of EU Directive 89/686/EEC and the standard EN 374 derived from it.
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 combination filter for vapour/particulate (EN 141)
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.
Filter type: Combined particulates and organic vapour type (A-P)
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	Upper explosion limit/	
Colour:	beige to cream	Upper flammability limit:	No data available
Odour:	aromatic, weak	Lower explosion limit/	
Odour Threshold:	No data available	Lower flammability limit:	No data available
pH:	4 - 8 (25 °C)	Vapour pressure:	No data available
	Concentration: 1 % w/v	Relative vapour density:	No data available
	4 - 8 (25 °C)	Density:	1.057 g/cm³ (20 °C)
	Concentration: 100.0 % w/v	Solubility in other solvents:	Miscible. Solvent: Water
Melting point/range:	No data available	Partition Coefficient	
Boiling point/boiling range:	100 °C	n-octanol/water:	No data available
Flash point:	Method: Pensky-Martens closed cup. Does not flash	Autoignition temperature:	465 °C
		Viscosity, dynamic:	107 cSt (20 °C)
Evaporation rate:	No data available	Explosive properties:	Not explosive
Flammability (solid, gas):	No data available	Oxidizing properties:	The substance or mixture is not classified as oxidizing.

9.2 Other Information

Surface tension: 37.0 mN/m, 20 °C

10. STABILITY AND REACTIVITY

10.1 Reactivity:
None reasonably foreseeable.
10.2 Chemical stability
Stable under normal conditions.
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: No decomposition if used as directed.
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
Acute inhalation toxicity:	(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 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
LD50 (Rat, male): 79 mg/kg
Acute toxicity estimate: 100.0 mg/kg
Method: Converted acute toxicity point estimate

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, female): 696 mg/kg
LD50 (Rat, male): 632 mg/kg
Acute toxicity estimate: 1,100 mg/kg
Method: Converted acute toxicity point estimate

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

Acute oral toxicity: LD50 (Rat): 1,020 mg/kg

Skin corrosion/irritation	Respiratory or skin sensitisation
Product: Species: Rabbit Result: No skin irritation Remarks: May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia. **Components:** **lambda-cyhalothrin (ISO):** Species: Rabbit Result: No skin irritation Remarks: May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia. **1,2-benzisothiazol-3(2H)-one:** Result: Irritating to skin.	**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):** Species: Guinea pig Result: Did not cause sensitisation on laboratory animals. **1,2-benzisothiazol-3(2H)-one:** Result: Probability or evidence of skin sensitisation in humans

Germ cell mutagenicity	Serious eye damage/eye irritation
Components: **lambda-cyhalothrin (ISO):** Germ cell mutagenicity- Assessment: Animal testing did not show any mutagenic effects.	**Components:** **lambda-cyhalothrin (ISO):** Species: Rabbit Result: No eye irritation **1,2-benzisothiazol-3(2H)-one:** Result: Risk of serious damage to eyes.
Carcinogenicity	**Reproductive toxicity**
Components: **lambda-cyhalothrin (ISO):** Carcinogenicity - Assessment: No evidence of carcinogenicity in animal studies.	**Components:** **lambda-cyhalothrin (ISO):** Reproductive toxicity - Assessment: No toxicity to reproduction
	Aspiration toxicity
	Components: **Solvent naphtha (petroleum), heavy arom.; Kerosine -unspecified:** May be fatal if swallowed and enters airways.

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)): 0.21 µg/l
Exposure time: 96 h
LC50 (*Lepomis macrochirus* (Bluegill sunfish)): 0.078 µg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (*Daphnia magna* (Water flea)): 0.36 µg/l
Exposure time: 48 h

Toxicity to algae: ErC50 (*Pseudokirchneriella subcapitata* (green algae)): > 1 mg/l
Exposure time: 96 h

M-Factor (Acute aquatic toxicity): 10,000
Toxicity to microorganisms: EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
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): 10,000

Solvent naphtha (petroleum), heavy arom.; Kerosine -unspecified:

Ecotoxicology Assessment

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

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

Ecotoxicology Assessment

Acute aquatic toxicity: Very toxic to aquatic life.

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.

12.3 Bioaccumulative potential:

Components:

lambda-cyhalothrin (ISO):

Bioaccumulation: Remarks: Lambda-cyhalothrin bioaccumulates.

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).

12.6 Other adverse effects

No data available

---

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.

Waste Code: 150110, packaging containing residues of or contaminated by dangerous substances

---

14. TRANSPORT INFORMATION

14.1 UN number

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

14.2 UN proper shipping name

ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(LAMBDA-CYHALOTHRIN AND SUBSTITUTED BENZENOID HYDROCARBONS)

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)

ADN	ADR	RID	IMDG	IATA
9	9	9	9	9

14.4 Packing group

ADN	ADR	RID
Packing group : III Classification Code : M6 Hazard Identification Number: 90 Labels : 9	Packing group : III Classification Code : M6 Hazard Identification Number : 90 Labels : 9 Tunnel restriction code : (-)	Packing group : III Classification Code : M6 Hazard Identification Number : 90 Labels : 9
IMDG	**IATA (Cargo)**	**IATA (Passenger)**
Packing group : III Labels : 9 EmS Code : F-A, S-F	Packing instruction (cargo aircraft): 964 Packing instruction (LQ): Y964 Packing group: III Labels: Miscellaneous	Packing instruction (passenger aircraft): 964 Packing instruction (LQ): Y964 Packing group: III Labels: Miscellaneous

14.5 Environmental hazards

ADN	ADR	RID
Environmentally hazardous: yes	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

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals: Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).: Not applicable
REACH - List of substances subject to authorisation (Annex XIV): Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants: Not applicable
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII): Conditions of restriction for the following entries should be considered: Number on list 3
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

	Quantity 1	Quantity 2
E1 ENVIRONMENTAL HAZARDS	100 t	200 t
34 Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the productsreferred to in points (a) to (d)	2,500 t	25,000 t

Other regulations:

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. Use plant protection products safely. Always read the label and product information before use. Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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
2017/164/EU:	Commission Directive (EU) 2017/164 establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU
GB EH40:	UK. EH40 WEL - Workplace Exposure Limits
2017/164/EU / STEL:	Short term exposure limit
2017/164/EU / TWA:	Limit Value - eight hours
GB EH40 / TWA:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL:	Short-term exposure limit (15-minute reference period)

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.