

## HALLMARK WITH ZEON TECHNOLOGY

Version 11 - This version replaces all previous versions.

Revision Date 12.09.2013

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product identifier

**Product name** : HALLMARK WITH ZEON TECHNOLOGY

**Design code** : A12690B

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Use** : Insecticide

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

**Company** Syngenta UK Limited  
CPC4, Capital Park  
Fulbourn, Cambridge  
CB21 5XE

**Telephone** : (01223) 883400

**Telefax** : (01223) 882195

**Website** : [www.syngenta.co.uk](http://www.syngenta.co.uk)

#### 1.4 Emergency telephone number

: +44 (0) 1484 538444

### SECTION 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

Classification according to Regulation (EU) 1272/2008

Acute toxicity (Oral)	Category 4	H302
Acute toxicity (Inhalation)	Category 4	H332
Skin sensitisation	Category 1	H317
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 1	H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 Label elements

Labelling: Regulation (EC) No. 1272/2008

Hazard pictograms



**Signal Word** :Warning

**Hazard Statements** :H302/332  
:H317

Harmful if swallowed or if inhaled  
May cause an allergic skin reaction.

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	:H410	Very toxic to aquatic life with long lasting effects.
Precautions Statements	:P102	Keep out of reach of children.
	:P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
	:P270	Do not eat, drink or smoke when using this product.
	:P280	Wear protective gloves/protective clothing/ eye protection/face protection.
	:P301/312	IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
	:P302/352	IF ON SKIN: Wash with plenty of soap and water.
	:P304/340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
	:P391	Collect spillage.
	:P501	Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.
Supplemental Information	:EUH401	To avoid risks to human health and the environment comply with the instructions for use.

Hazardous components which must be listed on the label:

- lambda-cyhalothrin
- 1,2-benzisothiazol-3(2H)-one

### 2.3 Other hazards

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

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2 Mixtures

#### Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Concentration
lambda-cyhalothrin	91465-08-6 415-130-7	T+, N R21 R25 R26 R50/53	9.6 % W/W
propane-1,2-diol	57-55-6 200-338-0	-	20 - 30 % W/W
solvent naphtha (petroleum), highly arom.	64742-94-5 265-198-5 922-153-0 01-2119451097-39-0 000	Xn, N R51/53 R65 R66	5 - 10 % W/W
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9	Xn, N R22 R38 R41 R43 R50	0.05 - 0.1 %W/W

Substances for which there are Community workplace exposure limits.

For the full text of the H-Statements mentioned in this Section, see Section 16.

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### SECTION 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

- General Advice : Have the product container, label or Material Safety Data Sheet with you when calling the Syngenta emergency number, a poison control centre or physician, or going for treatment.
- Inhalation : 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.
- 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.
- 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.
- Ingestion : 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

- Medical advice** : Do not induce vomiting: contains petroleum distillates and/or aromatic solvents. Treat symptomatically.

### SECTION 5. FIREFIGHTING 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.  
Do not use a solid water stream as it may scatter and spread fire.
- 5.2 Special hazards arising from the substance or mixture**  
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:**  
Wear full protective clothing and self-contained breathing apparatus. Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures**  
Refer to protective measures listed in sections 7 and 8.
- 6.2 Environmental precautions:**

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Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

6.3

### Methods and materials for containment and 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).

6.4

### Reference to other sections

Refer to protective measures listed in sections 7 and 8.

Refer to disposal considerations listed in section 13.

## SECTION 7. HANDLING AND STORAGE

7.1

### Precautions for 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

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.

7.3

### Specific end use(s)

Registered Crop Protection products: For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Components	Exposure limit(s)	Type of exposure limit	Source
lambda-cyhalothrin	0.04 mg/m <sup>3</sup> (Skin)	8 h TWA	SYNGENTA
propane-1,2-diol	10 mg/m <sup>3</sup> (Particulates) 150 ppm, 470 mg/m <sup>3</sup> (Total (vapour & particulates))	8 h TWA 8 h TWA	UK HSE UK HSE
Solvent naphtha (petroleum), highly arom.	15 ppm, 100 mg/m <sup>3</sup>	8 h TWA	SUPPLIER
sulfuric acid	0.02 mg/m <sup>3</sup> 0.2 mg/m <sup>3</sup>	8 h TWA 8 h TWA	IOELV STM

The following recommendations for exposure controls/personal protection are intended for the manufacture, formulation and packaging of the product.

### 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. If airborne mist or vapours are generated, use local exhaust ventilation controls. Assess

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	exposure and use any additional measures to keep airborne levels below any relevant exposure limit. Where necessary, seek additional occupational hygiene advice.
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. Personal protective equipment should be certified to appropriate standards.
Respiratory protection	: A combination gas, vapour and particulate respirator may be necessary until effective technical measures are installed. Protection provided by air-purifying respirators is limited. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.
Hand protection	: Chemical resistant gloves should be used. Gloves should be certified to an appropriate standard. Gloves should have a minimum breakthrough time that is appropriate to the duration of exposure. The breakthrough time of gloves varies according to the thickness, material and manufacturer. Gloves should be changed when breakthrough is suspected. Suitable material: nitrile rubber.
Eye Protection	: Eye protection is not usually required. Follow any site specific eye protection policies.
Skin and body protection	Assess the exposure and select chemical resistant clothing based on the potential for contact and the permeation / penetration characteristics of the clothing material. Wash with soap and water after removing protective clothing. Decontaminate clothing before re-use, or use disposable equipment (suits, aprons, sleeves, boots, etc.). Wear as appropriate: impervious protective suit.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Physical State</b>	: Liquid
<b>Form</b>	: Suspension
<b>Colour</b>	: Beige to cream
<b>Odour</b>	: Aromatic, weak
<b>Odour Threshold</b>	: No data available
<b>pH</b>	: 4 – 8 at 1% and 100% w/v (25 °C)
<b>Melting point/range</b>	: No data available
<b>Boiling point/boiling range</b>	: 100 °C
<b>Flash point</b>	: >103 °C at 102.3 kPa Pensky-Martens c.c.
<b>Evaporation rate</b>	: No data available
<b>Flammability (solid, gas)</b>	: No data available
<b>Lower explosion limit</b>	: No data available
<b>Upper explosion limit</b>	: No data available
<b>Vapour pressure</b>	: No data available
<b>Relative vapour density</b>	: No data available
<b>Density</b>	: 1.057 g/cm <sup>3</sup> at 20 °C
<b>Solubility in other solvents</b>	: Miscible in water
<b>Partition Coefficient n-octanol/water</b>	: No data available
<b>Autoignition temperature</b>	: No data available
<b>Thermal decomposition</b>	: No data available
<b>Viscosity, dynamic</b>	: No data available

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<b>Viscosity, kinematic</b>	:	No data available
<b>Explosive properties</b>	:	Not explosive
<b>Oxidizing properties</b>	:	Not oxidising

### 9.2 Other information

<b>Surface Tension</b>	:	37.0 mN/m at 20 °C
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## SECTION 10. STABILITY AND REACTIVITY

10.1	Reactivity	:	No information available
10.2	Chemical Stability	:	No information available
10.3	Possibility of hazardous reactions	:	None known. Hazardous polymerisation does not occur.
10.4	Conditions to avoid	:	No information available
10.5	Incompatible materials	:	No information available
10.6	Hazardous decomposition products	:	Combustion or thermal decomposition will evolve toxic and irritant vapours.

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

<b>Acute oral toxicity</b>	:	Median lethal dose male rat, 334 mg/kg Median lethal dose female rat, 404 mg/kg
<b>Acute inhalational toxicity</b>	:	LC50 rat, > 2.5 mg/l, 4 h The toxicological data has been taken from products of similar composition.
<b>Acute dermal toxicity</b>	:	Median lethal dose rat, > 2,000 mg/kg
<b>Skin corrosion/irritation</b>	:	Rabbit: Practically non-irritating May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia
<b>Serious eye damage/eye irritation</b>	:	
<b>lambda-cyhaothrin</b>	:	Rabbit: mildly irritating
<b>Respiratory or skin sensitisation</b>	:	Buehler Test guinea pig: A mild skin sensitiser in animal tests.
<b>Germ cell mutagenicity</b>	:	
<b>lambda-cyhalothrin</b>	:	Did not show mutagenic effects in animal experiments.
<b>Carcinogenicity</b>	:	
<b>lambda-cyhalothrin</b>	:	Did not show carcinogenic effects in animal experiments.
<b>Reproductive toxicity</b>	:	
<b>lambda-cyhalothrin</b>	:	Did not show reproductive toxicity effects in animal experiments.
<b>STOT – repeated exposure</b>	:	
<b>lambda-cyhalothrin</b>	:	No adverse effect has been observed in chronic toxicity tests.
<b>Aspiration toxicity</b>	:	
<b>Solvent naphtha (petroleum), highly arom.</b>	:	May be fatal if swallowed and enters airways

## SECTION 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

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<b>Toxicity to fish</b>	:	LC50 <i>Cyprinus carpio</i> (carp), 0.012 mg/l, 96 h
<b>Toxicity to aquatic invertebrates</b>	:	EC50 <i>Daphnia magna</i> (water flea), 0.0026 mg/l, 48 h
<b>Toxicity to aquatic plants</b>	:	
<b>lambda-cyhalothrin</b>	:	ErC50 <i>Pseudokirchneriella subcapitata</i> (green algae) > 1 mg/l, 96h EbC50 <i>Pseudokirchneriella subcapitata</i> (green algae) > 1 mg/l, 96h
<b>solvent naphtha (petroleum) highly arom.</b>	:	EC50 <i>Pseudokirchneriella subcapitata</i> (green algae) 7.9 mg/l, 72h

### 12.2 Persistence and degradability

#### Biodegradability

lambda-cyhalothrin Not biodegradable

#### Stability in water

lambda-cyhalothrin : Degradation half life: 7 d. Not persistent in water

#### Stability in soil

lambda-cyhalothrin : Degradation half life: 56 d. Not persistent in soil

### 12.3 Bioaccumulative potential

lambda-cyhalothrin bioaccumulates.

### 12.4 Mobility in soil

lambda-cyhalothrin is immobile in soil.

### 12.5 Results of PBT and vPvB assessment

lambda-cyhalothrin	:	This substance is not considered to be persistent, bioaccumulating or toxic (PBT). This substance is not considered to be very persistent or very bioaccumulating (vPvB).
Solvent naphtha (petroleum) highly arom.	:	This substance is not considered to be persistent, bioaccumulating or toxic (PBT). This substance is not considered to be very persistent or very bioaccumulating (vPvB).

**Other information** : Classification of the product is based on the summation of the concentrations of classified components.

## SECTION 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 for local recycling or waste disposal. Do not re-use empty containers.

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### SECTION 14. TRANSPORT INFORMATION

#### Land transport (ADR/RID)

14.1	UN Number	:	UN 3082
14.2	UN proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LAMBDA-CYHALOTHRIN AND SUBSTITUTED BENZENOID HYDROCARBONS)
14.3	Transport hazard class(es)	:	9
14.4	Packing Group	;	III
Labels		:	9
14.5	Environmental hazards	:	Environmentally hazardous

#### Sea transport(IMDG)

14.1	UN Number	:	UN 3082
14.2	UN proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LAMBDA-CYHALOTHRIN AND SUBSTITUTED BENZENOID HYDROCARBONS)
14.3	Transport hazard class(es)	:	9
14.4	Packing Group	;	III
Labels		:	9
14.5	Environmental hazards	:	Marine pollutant

#### Air transport (IATA-DGR)

14.1	UN Number	:	UN 3082
14.2	UN proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LAMBDA-CYHALOTHRIN AND SUBSTITUTED BENZENOID HYDROCARBONS)
14.3	Transport hazard class(es)	:	9
14.4	Packing Group	;	III
Labels		:	9
14.6	Special precautions for user	:	None

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

not applicable



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### SECTION 15. REGULATORY INFORMATION

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

GHS-Labeling

Hazard pictograms		
		
Signal Word	:Warning	
Hazard Statements	:H302/332 :H317 :H410	Harmful if swallowed or if inhaled May cause an allergic skin reaction. Very toxic to aquatic life with long lasting effects.
Precautions Statements	:P102 :P261 :P270 :P280  :P301/312  :P302/352 :P304/340  :P391 :P501	Keep out of reach of children. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/ eye protection/face protection. IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Collect spillage. Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.
Supplemental Information	:EUH401	To avoid risks to human health and the environment comply with the instructions for use.

Hazardous components which must be listed on the label:

- lambda-cyhalothrin
- 1,2-benzisothiazol-3(2H)-one

#### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance.

### SECTION 16. OTHER INFORMATION

#### Further information

Approval number, MAPP 12629.

Use plant protection products safely. Always read the label and product information before use.

Based upon SDS release dated 12/09/2013, version 11 with local amendment.

Full text of H-Statements referred to under sections 2 and 3.

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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
H332	Harmful 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

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.