

# KARATE ZEON

Version 6

Revision Date 11.06.2008

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## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### PRODUCT INFORMATION

**Product name** : KARATE ZEON  
**Design Code** : A12678A  
**Use** : Insecticide  
**Company** : Syngenta Crop Protection AG  
 Postfach  
 CH-4002 Basel  
 Switzerland  
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Toxic



Dangerous for the environment

## 2. HAZARDS IDENTIFICATION

Flammable.  
 Harmful if swallowed.  
 Harmful: may cause lung damage if swallowed.  
 Toxic by inhalation.  
 Irritating to respiratory system and skin.  
 Risk of serious damage to eyes.  
 May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.  
 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Hazardous components

Chemical Name	CAS-No.	EC-No.	Symbol(s)	R-phrases	Concentration
lambda-cyhalothrin	91465-08-6	415-130-7	T+, N	R21 R25 R26 R50/53	2.8 % W/W
poly(oxy-1,2ethanediyl),alpha((1,1,3,3-tetramethylbutyl)phenyl)-omega-hydroxy	9036-19-5		Xn, N	R22 R41 R51/53	5 - 15 % W/W
benzenesulfonic acid, dodecyl-, calcium salt	26264-06-2	247-557-8	Xi	R38 R41	1 - 5 % W/W
1-propanol, 2-methyl-	78-83-1	201-148-0	Xi	R10 R37/38 R41	1 - 5 % W/W

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				R67	
solvent naphtha (petroleum), light arom.	64742-95-6	265-199-0	Xn	R65	40 - 50 % W/W
benzene, 1,3,5-trimethyl- *	108-67-8	203-604-4	Xi, N	R10 R37 R51/53	5 - 10 % W/W
benzene, 1,2,4-trimethyl- *	95-63-6	202-436-9	N, Xn	R10 R20 R36/37/38 R51/53	25 - 30 % W/W

\* indicates substances for which there are Community workplace exposure limits.  
For the full text of the R-phrases mentioned in this Section, see Section 16.

#### 4. 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 center or physician, or going for treatment.

##### Inhalation

: Remove 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 contaminated clothing and shoes 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.

##### Medical advice

: Skin contact paresthesia effects (itching, tingling, burning or numbness) are transient, lasting up to 24 hours. Treat symptomatically.  
Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

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**5. FIRE-FIGHTING MEASURES**

- Suitable extinguishing media** : Extinguishing media - small fires  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.  
Extinguishing media - large fires  
Alcohol-resistant foam
- Extinguishing media which shall not be used for safety reasons** : Do not use a solid water stream as it may scatter and spread fire.
- 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.  
Flash back possible over considerable distance.
- Special protective equipment for fire-fighters** : 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.

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**6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions** : Refer to protective measures listed in sections 7 and 8.  
Keep people away from and upwind of spill/leak.  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.  
Remove all sources of ignition.  
Pay attention to flashback.
- Environmental precautions** : Prevent further leakage or spillage if safe to do so.  
Do not flush into surface water or sanitary sewer system.
- 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).
- Additional advice** : If the product contaminates rivers and lakes or drains inform respective authorities.

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### 7. HANDLING AND STORAGE

#### HANDLING

**Advice on safe handling** : Avoid contact with skin and eyes.  
When using, do not eat, drink or smoke.  
Take precautionary measures against static discharges.  
Use only in an area containing flame proof equipment.  
For personal protection see section 8.

#### STORAGE

**Requirements for storage areas and containers** : 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.  
Keep away from heat and sources of ignition.  
Keep away from combustible material.  
Keep in an area equipped with sprinklers.  
No smoking.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace 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
solvent naphtha (petroleum), light arom.	19 ppm 100 mg/m <sup>3</sup>	8 h TWA	SUPPLIER
1-propanol, 2-methyl-	1,600 ppm 50 ppm 100 ppm 50 ppm 100 ppm	15 min STEL 8 h TWA 8 h TWA	NIOSH SUVA SUVA ACGIH DFG
benzene, 1,3,5-trimethyl-	125 mg/m <sup>3</sup> 100 mg/m <sup>3</sup> 20 ppm	8 h TWA 8 h TWA	UK HSE
benzene, 1,2,4-trimethyl-	25 ppm 25 ppm 125 mg/m <sup>3</sup> 100 mg/m <sup>3</sup> 20 ppm	8 h TWA 8 h TWA 8 h TWA 8 h TWA	ACGIH NIOSH UK HSE IOELV

#### 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 mists or vapors are generated, use local exhaust ventilation controls.

Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit.

Where necessary, seek additional occupational hygiene advice.

#### PERSONAL PROTECTIVE EQUIPMENT

**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, vapor 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.

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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 discarded and replaced if there is any indication of degradation or chemical breakthrough.  
Suitable material  
Nitrile rubber

- Eye protection** : If eye contact is possible, use tight-fitting chemical safety goggles and a face shield.
- 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

**9. PHYSICAL AND CHEMICAL PROPERTIES**

- Form** : liquid clear to slightly turbid  
**Colour** : yellow  
**Flash point** : > 38 °C
- Oxidizing properties** : not oxidizing
- Explosive properties** : Not explosive
- Density** : 0.9 g/cm<sup>3</sup>  
**Solubility in other solvents** : Miscible  
in Water

**10. STABILITY AND REACTIVITY**

- Hazardous decomposition products** : Combustion or thermal decomposition will evolve toxic and irritant vapors.
- Hazardous reactions** : None known.  
Hazardous polymerization does not occur.  
Stable under normal conditions.

**11. TOXICOLOGICAL INFORMATION**

- Acute oral toxicity** : Median lethal dose male Rat, 923 mg/kg  
: Median lethal dose female Rat, 923 - 1,930 mg/kg
- Acute inhalation toxicity**  
• lambda-cyhalothrin : LC50 Rat 0.06 mg/l, 4 h

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<b>Acute dermal toxicity</b>	:	Median lethal dose Rat, > 1,780 mg/kg
<b>Skin irritation</b>	:	Rat: Severely Irritating
<b>Eye irritation</b>	:	Rabbit: Severely Irritating
<b>Sensitisation</b>	:	guinea pig: A mild skin sensitizer in animal tests
<b>Long term toxicity</b>	:	Did not show carcinogenic, teratogenic or mutagenic effects in animal experiments.

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**12. ECOLOGICAL INFORMATION****ELIMINATION INFORMATION (PERSISTENCE AND DEGRADABILITY)**

<b>Bioaccumulation</b>	:	Lambda-cyhalothrin bioaccumulates.
<b>Stability in water</b>	:	Degradation half life: 56 d Lambda-cyhalothrin is not persistent in water.
<b>Stability in soil</b>	:	Degradation half life : ca. 7 d Lambda-cyhalothrin is not persistent in soil.
<b>Mobility</b>	:	Lambda-cyhalothrin is immobile in soil.
<b>ECOTOXICITY EFFECTS</b>	:	
<b>Toxicity to fish</b>	:	LC50 Oncorhynchus mykiss (rainbow trout), 13.6 µg/l , 96 h Derived from components.

**Toxicity to daphnia and other aquatic invertebrates.**

• lambda-cyhalothrin	:	EC50 Daphnia magna (Water flea), 0.36 µg/l , 48 h
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**Toxicity to algae**

• lambda-cyhalothrin	:	EC50 Pseudokirchneriella subcapitata (green algae), > 1 mg/l
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**13. DISPOSAL CONSIDERATIONS**

<b>Product</b>	:	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.
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**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.

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**14. TRANSPORT INFORMATION****Land transport***ADR/ RID:*

UN-Number: 1993  
Class: 3  
Labels: 3  
Packaging group III  
Proper shipping name : FLAMMABLE LIQUID, N.O.S.  
(SUBSTITUTED BENZENOID HYDROCARBONS AND LAMBDA-CYHALOTHRIN )

**Sea transport***IMDG:*

UN-Number: 1993  
Class: 3  
Labels: 3  
Packaging group: III  
Proper shipping name : FLAMMABLE LIQUID, N.O.S.  
(SUBSTITUTED BENZENOID HYDROCARBONS AND LAMBDA-CYHALOTHRIN )

Marine pollutant : Marine pollutant

**Air transport***IATA-DGR*

UN-Number: 1993  
Class: 3  
Labels: 3  
Packaging group: III  
Proper shipping name : FLAMMABLE LIQUID, N.O.S.  
(SUBSTITUTED BENZENOID HYDROCARBONS AND LAMBDA-CYHALOTHRIN )



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### 15. REGULATORY INFORMATION

#### Labelling according to EC Directives

Hazardous components which must be listed on the label:

- lambda-cyhalothrin
- poly(oxy-1,2ethanediyl),alpha((1,1,3,3-tetramethylbutyl)phenyl)-omega-hydroxy
- solvent naphtha (petroleum), light arom.

<b>Symbol(s)</b>	: T N	Toxic Dangerous for the environment
<b>R-phrase(s)</b>	: R10 R22 R23 R37/38 R41 R50/53  R65	Flammable. Harmful if swallowed. Toxic by inhalation. Irritating to respiratory system and skin. Risk of serious damage to eyes. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Harmful: may cause lung damage if swallowed.
<b>S-phrase(s)</b>	: S 1/2 S13 S20/21 S26  S35 S36/37/39 S45 S57	Keep locked up and out of the reach of children. Keep away from food, drink and animal feedingstuffs. When using do not eat, drink or smoke. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. This material and its container must be disposed of in a safe way. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Use appropriate container to avoid environmental contamination.
<b>Special labelling of certain preparations</b>	: To avoid risks to man and the environment, comply with the instructions for use.	

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**16. OTHER INFORMATION****Further information**

Text of R-phrases mentioned in Section 3:

<b>R10</b>	Flammable.
<b>R20</b>	Harmful by inhalation.
<b>R21</b>	Harmful in contact with skin.
<b>R22</b>	Harmful if swallowed.
<b>R25</b>	Toxic if swallowed.
<b>R26</b>	Very toxic by inhalation.
<b>R36/37/38</b>	Irritating to eyes, respiratory system and skin.
<b>R37</b>	Irritating to respiratory system.
<b>R37/38</b>	Irritating to respiratory system and skin.
<b>R38</b>	Irritating to skin.
<b>R41</b>	Risk of serious damage to eyes.
<b>R50/53</b>	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
<b>R51/53</b>	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
<b>R65</b>	Harmful: may cause lung damage if swallowed.
<b>R67</b>	Vapours may cause drowsiness and dizziness.

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