

## MATERIAL SAFETY DATA SHEET

### STATEMENT OF HAZARDOUS NATURE:

Hazardous according to the criteria of NOHSC Australia

### COMPANY DETAILS:

Syngenta Crop Protection Pty Limited  
ABN 33 002 933 717  
Level 1, 2-4 Lyon Park Road  
NORTH RYDE, NSW 2113

Telephone No.: (02) 8876 8444  
24 Hours Emergency No.: 1 800 033 111

## IDENTIFICATION

### PRODUCT NAME: Karate with ZEON TECHNOLOGY Insecticide

Formulation type:	capsule suspension	UN number:	3352
Active ingredient:	Lambda-cyhalothrin	Dangerous goods class:	6.1
Product code:		Subsidiary risk:	-
Chemical type:	Pyrethroid	Hazchem code:	2X
Poisons schedule:	6	Packing group:	III
		EPG/IERG:	6B5

**USE:** Insecticide for the control of certain insect pests in cotton, barley, wheat and various field crops.

### PHYSICAL DESCRIPTION/PROPERTIES

Appearance:	Beige liquid	Flash Point:	Does not flash
Odour:	not available	Flammability limits:	not applicable
Melting point:	not applicable	Combustibility:	Non-combustible
Vapour pressure:	not available	Solubility in water:	miscible
Specific gravity:	1.0956 g/cm <sup>3</sup>		

### OTHER PROPERTIES

Viscosity:	79.7 mPa	Explosive properties:	not explosive
pH (1% aqueous):	5.43	Auto-ignition temperature:	not available

### INGREDIENTS

	CAS No.	Content (%w/v)
Lambda-cyhalothrin (technical grade)	91465-08-6	23
Hydrocarbon solvent	64742-94-5	10 - 15
Other ingredients deemed not to be hazardous	-	> 60

## HEALTH HAZARD INFORMATION

### HEALTH EFFECTS

#### ACUTE TOXICITY

This product is TOXIC according to NOHSC Australia.

Swallowed:	<b>TOXIC</b> Tests on rats indicate this product is TOXIC following a single dose of a the formulated product. (LD <sub>50</sub> = 180 - 245 mg/kg)
Dermal absorption:	<b>NOT HARMFUL</b> Tests on rats indicate this product is NOT HARMFUL following skin contact with the formulated product. (LD <sub>50</sub> > 2000 mg/kg)
Inhaled:	<b>VERY TOXIC</b> Tests on rats indicate this product is VERY TOXIC due to inhalation of active ingredient. (LC <sub>50</sub> = 0.06 mg/L/4 hours)

**Irritation**

Eye: **SLIGHT IRRITANT**  
 Skin: **SLIGHT IRRITANT**

**Sensitisation**

Skin: **A POTENTIAL SKIN SENSITISER**

**Poisoning symptoms:**

Symptoms that may arise if the product is mishandled and overexposure occurs are nausea, vomiting, diarrhoea, abdominal pain, ataxia, unsteady gait, hyperexcitability, salivation, tremors and incontinence. Larger doses may cause convulsions and loss of consciousness. If the victim is uncoordinated there is a greater likelihood of vomit entering the lungs and causing subsequent complications. Aspiration pneumonia (inflammation of the lung) may result. Contact with the skin may result in irritation. Will have a degreasing action on the skin. Repeated or prolonged skin contact may lead to irritant contact dermatitis. May cause tingling, burning, itching or numbness in exposed areas which can last up to 36 hours. Lambda-cyhalothrin can be absorbed through the skin. Effects can include those described above.

**CHRONIC TOXICITY (Active Ingredient)**

**Lambda-cyhalothrin technical** has been extensively tested in mammals and in test-tube systems. No evidence of mutagenic, carcinogenic, neurotoxic or teratogenic effects was obtained. A three generation reproductive study in rats revealed minor reproductive effects at the highest dose only (100 mg/kg) (reduction in litter size and weight gain only). The **aromatic hydrocarbon solvent** may cause central nervous system depression and narcosis.

**FIRST AID**

**In case of poisoning by any exposure route contact a doctor or Poisons Information Centre. Phone 13 11 26.**

Swallowed: Rinse mouth with water and give water to drink. Do not induce vomiting. Seek immediate medical assistance.

Eye: If product gets in eyes wash it out immediately with copious quantities of water for 15 minutes. Seek medical advice.

Skin: If skin contact occurs remove contaminated clothing and wash affected areas thoroughly with soap and water. Wash contaminated clothing before re-use. The active ingredient may be absorbed through the skin with resultant toxic effects. Seek immediate medical advice.

Inhaled: Move person to fresh air and keep at rest until recovered. Remove any contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. If breathing laboured and patient cyanotic (blue) ensure airways are clear and have qualified person give oxygen through a face mask. If breathing has stopped, apply artificial respiration at once. In event of cardiac arrest, apply external cardiac massage. Seek medical attention.

**ADVICE TO DOCTOR**

No specific antidote exists. Treat symptomatically.

## PRECAUTIONS FOR USE

### ALWAYS READ AND FOLLOW THE LABEL INSTRUCTIONS AND WARNINGS

**EXPOSURE STANDARDS**

	TWA		NOTICE
	ppm	mg/m <sup>3</sup>	
<b>Lambda-cyhalothrin</b>	---	<b>0.04</b>	<b>Sk</b>
<b>Mixed hydrocarbon solvent</b>	---	<b>500</b>	---

TWA = The time weighted average airborne concentrations over an eight-hour working day, for a five-day working week over an entire working life.  
 Sk notice – absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

**Exposure Potential** - Swallowing is unlikely under normal conditions of usage. Significant skin uptake may occur. Inhalation is a possible route of exposure.

**Re-entry Period** - Do not enter treated areas without protective clothing for 12 hours after application.

**ENGINEERING CONTROLS**

Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Hygiene Standard. Use with local exhaust ventilation or while wearing organic vapour respirator. Keep containers closed when not in use.

**PERSONAL PROTECTION**

MANUFACTURE, PACKAGING AND TRANSPORT: Avoid skin and eye contact and the inhalation of mist. Wear overalls, safety glasses and impervious gloves. If inhalation risk exists wear organic vapour respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Wash contaminated clothing and other protective equipment before storage or re-use. Always wash hands before smoking, eating, drinking or using the toilet.

PREPARATION AND USE OF PRODUCT: Facial skin contact may cause temporary facial numbness. When using the product wear cotton overalls buttoned to the neck and wrist, a washable hat and elbow-length PVC gloves, face shield and goggles. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

**FLAMMABILITY**

This product is non-combustible.

**SAFE HANDLING INFORMATION****STORAGE AND TRANSPORT**

Store in closed, original container in a dry cool, well-ventilated area out of direct sunlight. Store in a locked room or place away from children, unauthorised persons, animals, food, feedstuffs, seed and fertilisers.

Store and transport according to the requirements for a Class 6.1 dangerous good and a Schedule 6 poison.

**Transport Classification – Road, Air and Sea (IMDG):**

**UN No.:** 3352      **Proper Shipping Name:** PYRETHROID PESTICIDE, LIQUID, TOXIC, LIQUID, (CONTAINS LAMBDA-CYHALORHTIN 25%)

**Packing Group:** III      **Additional information:** MARINE POLLUTANT

**Segregation:** not to be loaded with explosives (class 1), nitromethane, oxidising agents (class 5.1), organic peroxides (class 5.2), foodstuffs or foodstuff empties, however exemptions may apply.

**SPILLS AND DISPOSAL**

In case of spillage it is important to take all steps necessary to:

- Avoid eye and skin contact.
- Avoid contamination of waterways.
- Shut off all possible sources of ignition. DO NOT smoke.

**Procedure for spill:**

- (1) Keep all bystanders away.
- (2) Wear full length clothing and PVC gloves.
- (3) Re-position any leaking containers so as to minimise further leakage.
- (4) Dam and absorb spill with an absorbent material (e.g. sand or soil).
- (5) Shovel the absorbed spill into drums.
- (6) Disposal of the absorbed material will depend upon the extent of the spill.
  - For quantities up to 50L of product bury in a secure landfill site.
  - For quantities greater than 50L seek advice from the manufacturer (use emergency contact number below) before attempting disposal. Contain in a secure location until disposal method is established.
- (7) Decontaminate the spill area with detergent and water and rinse with the smallest volume of water practicable.

**Dispose of empty, used containers by:**

- (a) Triple rinsing or preferably pressure rinsing containers with water. Add the rinsings to the spray tank. DO NOT dispose of undiluted chemicals on site.
- (b) If recycling, replace cap and return clean containers to recycler or designated collection point.
- (c) If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

**FIRE/EXPLOSION HAZARD**

This product is non-combustible, however, following evaporation of aqueous component residual material can burn if ignited. Extinguish warehouse and factory fires using water fog (if unavailable use fine water-spray), foam, dry agent (carbon dioxide, dry chemical powder). During a fire this product may release smoke, hazardous decomposition products and toxic fumes. When fighting a major fire wear SCBA and structural firefighters uniform. DO NOT allow fire-water to enter drains.

**OTHER INFORMATION**

The active ingredient **Lambda-cyhalothrin** is very toxic to aquatic organisms. Contamination of waterways should be strictly avoided. DO NOT apply under weather conditions or from spraying equipment which could be expected to cause spray to drift onto adjacent areas, particularly streams, rivers or other waterbodies.

Rainbow Trout, *Oncorhynchus mykiss*, LC<sub>50</sub> (96 h) = 0.44 µg/L

Sheephead minnow LC<sub>50</sub> (96 h) = 0.81 µg/L

Bluegill Sunfish, LC<sub>50</sub> (96 h) = 0.21 µg/L

Water Flea, *Daphnia magna*, LC<sub>50</sub> (48 h) = 0.36 µg/L

Lambda-cyhalothrin is very toxic to bees (oral LD<sub>50</sub> = 38 ng/bee, contact LD<sub>50</sub> = 909 ng/bee) and practically non-toxic to birds (mallard duck: oral LD<sub>50</sub> = >3950 mg/kg; bobwhite quail: dietary 3d LD<sub>50</sub> = >7530 mg/kg).

Lambda-cyhalothrin, in common with other synthetic pyrethroids, has a high LogPOW of 7. However, since the compound is insoluble in water (thus limiting exposures to aquatic species) and is rapidly metabolised in animal systems the risk of bioaccumulation in an aquatic species is low. Leaching into ground water through a range of soil types is negligible. In soil it reportedly has a half life of up to 12 weeks.

**Note:** This product is a registered agricultural chemical and must therefore be used in accordance with the container label directions. A comprehensive package of toxicological and environmental data for the active ingredients of this product has been submitted to the Federal health and environment authorities and has been evaluated by expert toxicologists and environmental scientists.

**CONTACT POINT:** Regulatory Affairs Manager – Syngenta Crop Protection - (02) 8876 8444  
**24 HOURS EMERGENCY CONTACT: 1 800 033 111**

This Material Safety Data Sheet summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

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