

## SAFETY DATA SHEET

### Section 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

<b>Product Name:</b>	<b>KARATE ZEON® Insecticide</b>
<b>Other Names:</b>	<b>Proper shipping name:</b> Pyrethroid Pesticide Liquid Toxic, N.O.S. (Lambda-cyhalothrin)  <b>Product code:</b> A12871F / A12871Q
<b>Recommended Use:</b>	Insecticide for the control of certain insect pests in barley, cotton, wheat and various field crops
<b>Company Details:</b>	<b>Syngenta Australia Pty Ltd</b> ABN 33 002 933 717
<b>Address:</b>	<b>Level 1, 2-4 Lyonpark Road</b> <b>MACQUARIE PARK NSW 2113</b> <b>AUSTRALIA</b>
<b>Telephone Number:</b>	<b>(02) 8876 8444</b>
<b>Emergency Telephone Number:</b>	<b>24 hours - 1800 033 111</b>

### Section 2: HAZARDS IDENTIFICATION

<b>Hazard Classification:</b>	Classified as a hazardous chemical according to the Australian criteria for the classification of chemicals
<b>Risk Phrases:</b>	R26 Very toxic by inhalation. R25 Toxic if swallowed. R21 Harmful in contact with skin.
<b>Safety Phrases:</b>	—

### Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

<b>SUBSTANCE</b>	
<b>Chemical Identity of Pure Substance:</b>	Lambda-cyhalothrin
<b>Synonym:</b>	PP321
<b>CAS Number:</b>	91465-08-6

<b>MIXTURE</b>		
<b>Chemical Identity of Ingredients</b>	<b>CAS No</b>	<b>Proportion (% w/v)</b>
Lambda-cyhalothrin	91465-08-6	25
Naphthalene	91-20-3	0 - 1
Solvent naphtha (petroleum), highly arom.	64742-94-5	15 - 20
1,2-benzisothiazol-3(2H)-one	2634-33-5	1 - 5
Other ingredients determined not to be hazardous	-	to 100

## Section 4: FIRST AID MEASURES

<b>Description of Necessary First Aid Measures:</b>	<p>In case of poisoning by any exposure route get to a doctor or hospital quickly. Phone Poisons Information Centre on 131 126. Have the product label or SDS with you when calling or going for treatment.</p> <p><b>Ingestion:</b> If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting.</p> <p><b>Eye contact:</b> Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.</p> <p><b>Skin contact:</b> 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.</p> <p><b>Inhalation:</b> 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 Information Centre immediately.</p>
<b>Poisoning Symptoms:</b>	Skin contact paraesthesia effects (itching, tingling, burning or numbness) are transient, lasting up to 24 hours.
<b>Medical Advice:</b>	Skin contact paraesthesia 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.

## Section 5: FIRE FIGHTING MEASURES

<b>Suitable Extinguishing Media:</b>	<p><i>Small fires</i>                  Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Do not use a solid water stream as it may scatter and spread fire.</p> <p><i>Large fires</i>                  Use alcohol-resistant foam or water spray. Do not use a solid water stream as it may scatter and spread fire.</p>
<b>Hazards from Combustion Products:</b>	As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see Section 10). Combustion or thermal decomposition will evolve toxic and irritant vapours. Exposure to decomposition products may be a hazard to health.
<b>Special Protective Precautions and Equipment for Fire Fighters:</b>	Wear 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.
<b>Hazchem Code:</b>	2X

## Section 6: ACCIDENTAL RELEASE MEASURES

<b>Emergency Procedures:</b>	In case of spillage it is important to take all steps necessary to <ul style="list-style-type: none"> <li>• Avoid eye and skin contact</li> <li>• Avoid contamination of waterways</li> </ul>
<b>Methods and Materials for Containment and Clean Up:</b>	<b>Procedure for spill</b> <ol style="list-style-type: none"> <li>(1) Keep all bystanders away</li> <li>(2) Wear full length clothing and PVC gloves</li> <li>(3) Reposition any leaking containers so as to minimise further leakage</li> <li>(4) Dam and absorb spill with an absorbent material (eg sand or soil)</li> <li>(5) Shovel the absorbed spill into drums</li> <li>(6) Disposal of the absorbed material will depend upon the extent of the spill                     <ul style="list-style-type: none"> <li>• For quantities up to 50 L of product bury in a secure landfill site</li> <li>• For quantities greater than 50 L seek advice from the manufacturer (use emergency contact number below) before attempting disposal. Contain in a secure location until disposal method is established</li> </ul> </li> <li>(7) Decontaminate spill area with detergent and water and rinse with the smallest volume of water practicable</li> </ol>

## Section 7: HANDLING AND STORAGE

<b>Precautions for Safe Handling:</b>	Harmful if inhaled or swallowed. Will irritate the eyes and skin. Repeated exposure may cause allergic disorders. Facial skin contact may cause temporary facial numbness. Avoid contact with eyes and skin. When opening the container, preparing the spray and using the prepared spray, wear: <ul style="list-style-type: none"> <li>• cotton overalls buttoned to the neck and wrist</li> <li>• a washable hat</li> <li>• elbow-length PVC gloves</li> <li>• face shield</li> </ul> If product on skin, immediately wash area with soap and water. Wash hands after use. After each day's use, wash gloves, face shield and contaminated clothing.
<b>Conditions for Safe Storage:</b>	Store in the closed, original container in a cool, well ventilated area. DO NOT store for prolonged periods in direct sunlight. Store in a locked room or place away from children, animals, food, feedstuffs, seed and fertilisers.

## Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

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

	<i>Component</i>	<i>Exposure limit</i>	<i>Value type</i>
<b>National Exposure Standards:</b>	Naphthalene	10 ppm 52 mg/m <sup>3</sup> 15 ppm 79 mg/m <sup>3</sup>	8h TWA 8h TWA STEL STEL
<b>Syngenta Exposure Standards:</b>	Lambda-cyhalothrin (skin)	0.04 mg/m <sup>3</sup>	8h TWA
<b>Exposure Standards (Supplier)</b>	solvent naphtha (petroleum), highly aromatic	100 mg/m <sup>3</sup>	8h TWA
<b>Biological Limit Values:</b>	No biological limits allocated		

<b>Engineering Controls:</b>	No special requirements. Product is used outdoors.
<b>Personal Protective Equipment:</b>	<p>Harmful if inhaled or swallowed. Will irritate the eyes and skin. Repeated exposure may cause allergic disorders. Facial skin contact may cause temporary facial numbness. Avoid contact with eyes and skin. When opening the container, preparing the spray and using the prepared spray, wear:</p> <ul style="list-style-type: none"> <li>• cotton overalls buttoned to the neck and wrist</li> <li>• a washable hat</li> <li>• elbow-length PVC gloves</li> <li>• face shield</li> </ul> <p>If product on skin, immediately wash area with soap and water. Wash hands after use. After each day's use, wash gloves, face shield and contaminated clothing.</p>

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Off-white to beige liquid	<b>Boiling Point/Range:</b>	Not available
<b>Odour:</b>	Faint hydrocarbon	<b>Freezing/Melting Point:</b>	Not available
<b>pH:</b>	4 – 7 at 1% w/v	<b>Solubility:</b>	Miscible in water
<b>Vapour Pressure:</b>	Not available	<b>Density:</b>	1.089 – 1.098 g/mL
<b>Vapour Density:</b>	Not available		

<b>Flash Point:</b>	Does not flash	<b>Explosive Properties:</b>	Not explosive
<b>Upper and Lower Flammable (Explosive) Limits in Air:</b>	Not available	<b>Oxidising Properties:</b>	Not oxidising
<b>Ignition Temperature:</b>	Not available	<b>Combustibility:</b>	Not combustible
		<b>Corrosiveness:</b>	Corrosive to tin plate, galvanised sheet metal, sheet steel. Not corrosive to stainless steel.

## Section 10: STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable under normal conditions.
<b>Conditions to Avoid:</b>	None known.
<b>Incompatible Materials:</b>	None known.
<b>Hazardous Decomposition Products:</b>	Combustion or thermal decomposition will evolve toxic and irritant vapours.
<b>Hazardous Reactions:</b>	None known. Hazardous polymerization does not occur.

## Section 11: TOXICOLOGICAL INFORMATION

Health Effects from Likely Routes of Exposure:		
<b>Acute:</b>	<b>Oral toxicity:</b>	<p><b>TOXIC</b>                      Tests on rats indicate this product is toxic following single doses of a similar formulation.                      Aspiration hazard if swallowed – can enter lungs and cause damage                      (LD<sub>50</sub> = 245 mg/kg, male)                      (LD<sub>50</sub> = 180 mg/kg, female)</p>
	<b>Dermal toxicity:</b>	<p><b>LOW TOXICITY</b>                      Tests on rats indicate this product has a low toxicity following skin contact with a similar formulation.                      (LD<sub>50</sub> &gt; 2,000 mg/kg)</p>
	<b>Inhalation:</b>	<p><b>HARMFUL</b>                      Tests on rats indicate this product harmful due to inhalation of a similar formulation.                      LC<sub>50</sub> (4h) = 3.12 mg/L air</p>
	<b>Skin irritation:</b>	<p><b>MODERATE IRRITANT</b>                      May cause temporary itching, tingling, burning or numbness of exposed skin, called paraesthesia.</p>
	<b>Eye irritation:</b>	<p><b>SLIGHT IRRITANT</b></p>
	<b>Sensitisation:</b>	<p><b>SENSITISER</b></p>
<b>Chronic:</b>	<p><b>Lambda-cyhalothrin technical</b> has been extensively tested on laboratory mammals and in test-tube systems. No evidence was obtained of mutagenic, carcinogenic, teratogenic, neurotoxic or reproductive effects.  <b>Naphthalene</b> did not show mutagenic or teratogenic effects in animal experiments. In a rat inhalation study with naphthalene, tumours were observed in the respiratory tract at all doses.</p>	

## Section 12: ECOLOGICAL INFORMATION

<b>Ecotoxicity:</b>	<i>Toxicity to fish:</i>	<p><b>Very highly toxic to fish</b>  <i>Oncorhynchus mykiss</i> (rainbow trout):                      LC<sub>50</sub> = 13 µg/L, 96 h                      (based on test results obtained with similar product)</p>
	<i>Toxicity to daphnia and other aquatic invertebrates:</i>	<p><b>Very highly toxic to Daphnia</b>  <i>Daphnia magna</i> (Water flea):                      EC<sub>50</sub> = 1.6 µg/L, 48 h</p>
<b>Persistence and Degradability:</b>	<p>Lambda-cyhalothrin is not persistent in soil or water.</p>	
<b>Mobility</b>	<p>Incorporated into organic molecules</p>	
<b>Environmental Fate (Exposure):</b>	<p>Lambda-cyhalothrin is immobile in soil.</p>	
<b>Bioaccumulative Potential:</b>	<p>Lambda-cyhalothrin bioaccumulates.</p>	

### Section 13: DISPOSAL CONSIDERATIONS

<b>Disposal Methods and Containers:</b>	Triple or preferably pressure rinse empty containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. 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.
<b>Special Precautions for Landfill or Incineration:</b>	Not applicable

### Section 14: TRANSPORT INFORMATION

<b>LAND TRANSPORT</b> ADG			
<b>UN Number:</b>	3352	<b>Packing Group:</b>	III
<b>UN Proper Shipping Name:</b>	Pyrethroid Pesticide, Liquid, N.O.S. (Lambda-cyhalothrin)	<b>Special Precautions for User:</b>	None allocated
<b>Class:</b>	6.1	<b>Hazchem Code:</b>	2X
<b>Subsidiary Risk:</b>	None allocated		

<b>SEA TRANSPORT</b> IMDG			
<b>UN Number:</b>	3352	<b>Subsidiary Risk:</b>	None allocated
<b>UN Proper Shipping Name:</b>	Pyrethroid Pesticide, Liquid, N.O.S. (Lambda-cyhalothrin)	<b>Packing Group:</b>	III
<b>Class:</b>	6.1	<b>Marine Pollutant:</b>	Marine pollutant

<b>AIR TRANSPORT</b> IATA - DGR			
<b>UN Number:</b>	3352	<b>Subsidiary Risk:</b>	None allocated
<b>UN Proper Shipping Name:</b>	Pyrethroid Pesticide, Liquid, N.O.S. (Lambda-cyhalothrin)	<b>Packing Group:</b>	III
<b>Class:</b>	6.1		

### Section 15: REGULATORY INFORMATION

<b>APVMA Product Number:</b>	51422
<b>Poisons Schedule (SUSDP):</b>	6

## Section 16: OTHER INFORMATION

**Date of preparation or last revision:** March 2013

**Source of Data:** The information provided in this SDS is sourced from Syngenta internal studies which have been conducted according to Regulatory requirements including OECD and CIPAC Guidelines and EC Directives. A comprehensive package of toxicological and environmental data for the active ingredients of this product has been submitted to the government health and environment authorities and has been evaluated by expert toxicologists and environmental scientists.

**Note: This product is a registered agricultural chemical and must, therefore, be used in accordance with the container label directions**

**CONTACT POINT:** Regulatory Manager, Syngenta Australia Pty Ltd  
(02) 8876 8444

**24 HOURS EMERGENCY CONTACT: 1800 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 SDS 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.

### **DISCLAIMER**

This product complies with the specifications in its statutory registration. Implied terms and warranties are excluded. Syngenta's liability for breach of the express or any non-excludable implied warranty is limited to product replacement or purchase price refund. The purchaser must determine suitability for intended purpose and take all proper precautions in the handling, storage and use of the product including those on the label and/or safety data sheet failing which Syngenta shall have no liability.

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