

KARATE 2.5EC

Version 7 - This version replaces all previous versions.

Revision Date 22.07.2014

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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1 Product identifier****Product name** : KARATE 2.5EC**Design code** : A12678A**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 Crop Protection AG
Postfach
CH-4002 Basel
Switzerland**Telephone** : +41 61 323 11 11**Telefax** : +41 61 323 12 12**E-mail address** : sds.ch@syngenta.com**1.4 Emergency telephone number****Emergency tele-
phone number** : +44 1484 538444**SECTION 2: HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture**

Classification according to Regulation (EU) 1272/2008

Flammable liquids	Category 3	H226
Acute toxicity (Oral)	Category 4	H302
Aspiration hazard	Category 1	H304
Skin irritation	Category 2	H315
Serious eye damage	Category 1	H318
Acute toxicity (Inhalation)	Category 3	H331
Specific target organ toxicity - single exposure	Category 3	H335
Specific target organ toxicity - single exposure	Category 3	H336
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.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

T, Toxic**N, Dangerous for the environment****R10: Flammable.****R22: Harmful if swallowed.**

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R23: Toxic by inhalation.**R37/38: Irritating to respiratory system and skin.****R41: Risk of serious damage to eyes.****R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.****R65: Harmful: may cause lung damage if swallowed.**

2.2 Label elements

Labelling: Regulation (EC) No. 1272/2008

Hazard pictograms



Signal word	:	Danger
Hazard statements	:	H226 Flammable liquid and vapour. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H318 Causes serious eye damage. H331 Toxic if inhaled. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements	:	P102 Keep out of reach of children. P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor/ physician. P331 Do NOT induce vomiting. P501 Dispose of contents/ container to an approved waste disposal plant.
Supplemental information	:	EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

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Hazardous components which must be listed on the label:

- lambda-cyhalothrin
- Octylphenol ethoxylate
- calcium dodecylbenzenesulphonate
- solvent naphtha (petroleum), light arom.

Labelling: EU Directives 67/548/EEC or 1999/45/EC

Symbol(s)



Toxic



**Dangerous
for the envi-
ronment**

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

Additional Labelling : To avoid risks to man and the environment, comply with the instructions for use.

Hazardous components which must be listed on the label:

- lambda-cyhalothrin
- Octylphenol ethoxylate
- calcium dodecylbenzenesulphonate
- solvent naphtha (petroleum), light arom.

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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)	Classification (REGULATION (EC) No 1272/2008)	Concentration
solvent naphtha (petroleum), light arom.	64742-95-6 265-199-0	Xn, N R10 R37 R51/53 R65 R66 R67	Flam. Liq.3; H226 STOT SE3; H335 STOT SE3; H336 Asp. Tox.1; H304 Aquatic Chronic2; H411	60 - 90 % W/W
Octylphenol ethoxylate	9036-19-5	Xn, N R22 R41 R51/53	Acute Tox.4; H302 Eye Dam.1; H318 Aquatic Chronic2; H411	5 - 15 % W/W
lamb-da-cyhalothrin	91465-08-6 415-130-7	T+, N R21 R25 R26 R50/53	Acute Tox.3; H301 Acute Tox.3; H311 Acute Tox.2; H330 Aquatic Acute1; H400 Aquatic Chronic1; H410	2.8 % W/W
calcium do-decylbenzene-sulphonate	26264-06-2 90194-26-6 247-557-8	Xi R38 R41	Skin Irrit.2; H315 Eye Dam.1; H318	1 - 5 % W/W
2-methylpropan-1-ol	78-83-1 201-148-0 01-2119484609-23-0 012	Xi R10 R37/38 R41 R67	Flam. Liq.3; H226 STOT SE3; H335 Skin Irrit.2; H315 Eye Dam.1; H318 STOT SE3; H336	1 - 5 % W/W

Substances for which there are Community workplace exposure limits.

For the full text of the R-phrases mentioned in this Section, see Section 16.

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 center 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
Alcohol-resistant foam

Do not use a solid water stream as it may scatter and spread fire.

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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.

Flash back possible over considerable distance.

5.3 Advice for firefighters

Wear full protective clothing and self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures**

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.

6.2 Environmental precautions

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).

If the product contaminates rivers and lakes or drains inform respective authorities.

6.4 Reference to other sections

Refer to protective measures listed in sections 7 and 8.

Refer to disposal considerations listed in section 13.

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SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

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

7.2 Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place.
 Keep out of the reach of children.
 Keep away from combustible material.
 Keep in an area equipped with sprinklers.
 Keep away from food, drink and animal feedingstuffs.
 No smoking.

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 ³ (Skin)	8 h TWA	SYNGENTA
solvent naphtha (petroleum), light arom.	19 ppm, 100 mg/m ³	8 h TWA	SUPPLIER
2-methylpropan-1-ol	1,600 ppm 50 ppm 100 ppm 50 ppm 100 ppm 50 ppm, 231 mg/m ³	8 h TWA 15 min STEL 8 h TWA 8 h TWA 8 h TWA 8 h TWA	NIOSH SUVA SUVA ACGIH DFG UK HSE

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

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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 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.
- 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** : Suitable material: Nitrile rubber
Break through time: > 480 min
Glove thickness: 0.5 mm
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 discarded and replaced if there is any indication of degradation or chemical breakthrough.
- 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

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Physical state	: liquid
Form	: clear to slightly turbid liquid
Colour	: yellow
Odour	: No data available
Odour Threshold	: No data available
pH	: No data available
Melting point/range	: No data available
Boiling point/boiling range	: No data available
Flash point	: 43 °C
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Density	: 0.9 g/cm ³
Solubility in other solvents	: Miscible in Water
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Thermal decomposition	: No data available
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: not oxidizing

9.2 Other information

: No data available

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.

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10.5 Incompatible materials

No information available.

10.6 Hazardous decomposition products

Combustion or thermal decomposition will evolve toxic and irritant vapors.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity : LD50 male rat, 923 mg/kg

: LD50 female rat, 923 - 1,930 mg/kg

Acute inhalation toxicity	: LC50 male rat, 1.384 mg/l , 4 h The toxicological data has been taken from products of similar composition.
	: LC50 female rat, 1 mg/l , 4 h The toxicological data has been taken from products of similar composition.

Acute dermal toxicity : LD50 male and female rat, > 1,780 mg/kg

Skin corrosion/irritation : rat: Severely Irritating
The toxicological data has been taken from products of similar composition.

Serious eye damage/eye irritation : rabbit: Moderately irritating

Respiratory or skin sensitisation : Maximisation Test (GPMT) guinea pig: A mild skin sensitizer in animal tests

Germ cell mutagenicity
 lambda-cyhalothrin : Did not show mutagenic effects in animal experiments.
 2-methylpropan-1-ol : Did not show mutagenic effects in animal experiments.

Carcinogenicity
 lambda-cyhalothrin : Did not show carcinogenic effects in animal experiments.
 2-methylpropan-1-ol : Did not show carcinogenic effects in animal experiments.

Reproductive toxicity
 lambda-cyhalothrin : Did not show reproductive toxicity effects in animal experiments.
 2-methylpropan-1-ol : Did not show reproductive toxicity effects in animal experiments.

STOT - single exposure : May cause respiratory irritation.
Derived from components.

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: May cause drowsiness or dizziness.
Derived from components.

STOT - repeated exposure

lambda-cyhalothrin : No adverse effect has been observed in chronic toxicity tests.

2-methylpropan-1-ol : No adverse effect has been observed in chronic toxicity tests.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	: LC50 Fish, ca. 0.007 mg/l , 96 h Derived from components.
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Toxicity to aquatic invertebrates	: EC50 Daphnia magna (Water flea), ca. 0.012 mg/l , 48 h Derived from components.
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Toxicity to aquatic plants	: EC50 Algae, ca. 1 mg/l , 72 h Derived from components.
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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 : Lambda-cyhalothrin bioaccumulates.

12.4 Mobility in soil

lambda-cyhalothrin : 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 nor toxic (PBT).
This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects

Other information	: Classification of the product is based on the summation of the concentrations of classified components.
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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 to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

SECTION 14: TRANSPORT INFORMATION**Land transport (ADR/RID)**

- 14.1 UN number:** UN 1993
14.2 UN proper shipping name: FLAMMABLE LIQUID, N.O.S. (SUBSTITUTED BENZENOID HYDROCARBONS AND LAMBDA-CYHALOTHRIN)
14.3 Transport hazard class(es): 3
14.4 Packing group: III
Labels: 3
14.5 Environmental hazards : Environmentally hazardous
Tunnel restriction code: D/E

Sea transport(IMDG)

- 14.1 UN number:** UN 1993
14.2 UN proper shipping name: FLAMMABLE LIQUID, N.O.S. (SUBSTITUTED BENZENOID HYDROCARBONS AND LAMBDA-CYHALOTHRIN)
14.3 Transport hazard class(es): 3
14.4 Packing group: III
Labels: 3
14.5 Environmental hazards : Marine pollutant

Air transport (IATA-DGR)

- 14.1 UN number:** UN 1993
14.2 UN proper shipping name: FLAMMABLE LIQUID, N.O.S. (SUBSTITUTED BENZENOID HYDROCARBONS AND LAMBDA-CYHALOTHRIN)
14.3 Transport hazard class(es): 3
14.4 Packing group: III
Labels: 3

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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

SECTION 15: REGULATORY INFORMATION

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

GHS-Labeling

Hazard pictograms



Signal word	:	Danger
Hazard statements	:	H226 Flammable liquid and vapour. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H318 Causes serious eye damage. H331 Toxic if inhaled. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements	:	P102 Keep out of reach of children. P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor/ physician. P331 Do NOT induce vomiting. P501 Dispose of contents/ container to an approved waste disposal plant.

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Remarks	: Classified using all GHS hazard classes and categories. Where the GHS contains options, the most conservative option has been chosen. Regional or national implementations of GHS may not implement all hazard classes and categories.
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Hazardous components which must be listed on the label:

- lambda-cyhalothrin
- Octylphenol ethoxylate
- calcium dodecylbenzenesulphonate
- solvent naphtha (petroleum), light arom.

15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16: OTHER INFORMATION**Further information**

Full text of R-phrases referred to under sections 2 and 3:

R10	Flammable.
R21	Harmful in contact with skin.
R22	Harmful if swallowed.
R25	Toxic if swallowed.
R26	Very toxic by inhalation.
R37	Irritating to respiratory system.
R37/38	Irritating to respiratory system and skin.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

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

H226	Flammable liquid and vapour.
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.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
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

ADR:	European Agreement Concerning the International Carriage of Dangerous Goods by Road	RID:	Regulations concerning the International Carriage of Dangerous Goods by Rail
IMDG:	International Maritime Code for Dangerous Goods	IATA-DGR:	International Air Transport Association Dangerous Goods Regulations
LC50:	Lethal concentration, 50%	LD50:	Lethal dose, 50%
EC50:	Effective dose, 50%	GHS:	Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

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