

MATERIAL SAFETY DATA SHEET

Lambdastar Ultracap 9.7 CS

Date of issue: 2014-06-26

Revision date: 2014-06-26

Version: R0005.0001

1. IDENTIFICATION

A. Product name

- Lambdastar Ultracap 9.7 CS [L-CH 9.7 CS]

B. Recommended use and restriction on use

- General use : Insecticide
 - Restriction on use : Not available

C. Manufacturer / Supplier / Distributor information

o Manufacturer information

- Company name : LG Life Sciences, Ltd.
 - Address : Onsan Plant, 19, Ijin-ro, Onsan-eup, Ulju-gun Ulsan, Korea
 - Dept. :
 - Telephone number : +82-52-231-5301
 - Emergency telephone number : +82-10-7575-9253
 - Fax number :
 - E-mail address :

2. HAZARD IDENTIFICATION

A. GHS Classification

- Acute Toxicity (Inhalation: dust / mist) : Category4

B. GHS label elements

o Hazard symbols



o Signal words

- Warning

o Hazard statements

- H332 Harmful if inhaled

o Precautionary statements

1) Prevention

- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 - P271 Use only outdoors or in a well-ventilated area.

2) Response

- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - P312 Call a POISON CENTER or doctor/physician if you feel unwell.

3) Storage

- Not applicable

4) Disposal

- Not applicable

C. Other hazards which do not result in classification : (NFPA Classification)

o NFPA grade (0 ~ 4 level)

- Health : 2, Flammability : 1, Reactivity : 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Trade names and Synonyms	CAS No.	Content(%)
Water	Dihydrogen oxide	7732-18-5	70
proprietary components	-	-	2.3
λ-Cyhalothrin	Cyclopropanecarboxylic acid, 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethyl-, cyano(3-phenoxyphenyl)methyl ester, [1a(S*),3α(Z)]-(±)-	91465-08-6	9.7
Propylene glycol	1,2-Dihydroxypropane	57-55-6	8

4. FIRST AID MEASURES

A. Eye contact

- Do not rub your eyes.
- Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.

B. Skin contact

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Laundering enough contaminated clothing before reuse.

C. Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.
- If breathing is stopped or irregular, give artificial respiration and supply oxygen.

D. Ingestion contact

- About whether I should induce vomiting Take the advice of a doctor.
- Rinse your mouth with water immediately.

E. Delayed and immediate effects and also chronic effects from short and long term exposure

- Not available

F. Notes to physician

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.

5. FIREFIGHTING MEASURES

A. Suitable (Unsuitable) extinguishing media

- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray
- Avoid use of water jet for extinguishing

B. Specific hazards arising from the chemical

- Not available

C. Special protective actions for firefighters

- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Using an unattended and water devices in case of large fire and leave alone to burn if you do not imperative.
- Avoid inhalation of materials or combustion by-products.
- Do not access if the tank on fire.
- Use appropriate extinguishing measure suitable for surrounding fire.
- Keep containers cool with water spray.
- Vapor or gas is burned at distant ignition sources can be spread quickly.

6. ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures

- Must work against the wind, let the upwind people to evacuate.
- Do not touch spilled material. Stop leak if you can do it without risk.
- Handling the damaged containers or spilled material after wearing protective equipment.
- Do not direct water at spill or source of leak.

B. Environmental precautions

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.

C. Methods and materials for containment and cleaning up

- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notification to central government, local government. When emissions at least of the standard amount
- Dispose of waste in accordance with local regulation.
- Appropriate container for disposal of spilled material collected.
- Small leak: sand or other non-combustible material, please let use absorption.
- Wipe off the solvent.
- Dike for later disposal.

7. HANDLING AND STORAGE

A. Precautions for safe handling

- Avoid direct physical contact.
- Since emptied containers retain product residue(vapor, liquid, solid) follow all MSDS and label warnings even after container is emptied.
- Comply with all applicable laws and regulations for handling
- Dealing only with a well-ventilated place.
- Do not inhale the steam prolonged or repeated.

B. Conditions for safe storage, including any incompatibilities

- Save applicable laws and regulations.
- Do not apply any physical shock to container.
- Avoid direct sunlight.
- Keep in the original container.
- Please pay attention to incompatibilities materials and conditions to avoid.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure limits

- o **ACGIH TLV**
 - Not available

B. Engineering controls

- A system of local and/or general exhaust is recommended to keep employee exposures above the Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. The use of local exhaust ventilation is recommended to control emissions near the source.

C. Personal protective equipment

- o **Respiratory protection**
 - Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
 - Respiratory protection is ranked in order from minimum to maximum.
 - Consider warning properties before use.
 - Any chemical cartridge respirator with organic vapor cartridge(s).
 - Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s).
 - Any air-purifying respirator with a full facepiece and an organic vapor canister.
 - For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.
- o **Eye protection**
 - Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
 - Provide an emergency eye wash station and quick drench shower in the immediate work area.

- **Hand protection**
 - Wear appropriate glove.
- **Skin protection**
 - Wear appropriate clothing.
- **Others**
 - Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance	
- Appearance	Suspension
- Color	Pale shade of brown
B. Odor	Aromatic
C. Odor threshold	Not available
D. pH	6.6
E. Melting point/Freezing point	Not available
F. Initial Boiling Point/Boiling Ranges	Not available
G. Flash point	> 250 °C
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	Not available
K. Vapour pressure	Not available
L. Solubility	Not available
M. Vapour density	1.02 g/ml
N. Specific gravity	Not available
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available
R. Viscosity	Not available
S. Molecular weight	Not available

10. STABILITY AND REACTIVITY

A. Chemical stability

- This material is stable under recommended storage and handling conditions.

B. Possibility of hazardous reactions

- Hazardous Polymerization will not occur.

C. Conditions to avoid

- Avoid contact with incompatible materials and condition.
- Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces

D. Incompatible materials

- Not available

E. Hazardous decomposition products

- May emit flammable vapour if involved in fire.

11. TOXICOLOGICAL INFORMATION

A. Information on the likely routes of exposure

- **(Respiratory tracts)**
 - Not available
- **(Oral)**
 - Not available
- **(Eye-Skin)**

- Not available

B. Delayed and immediate effects and also chronic effects from short and long term exposure

- **Acute toxicity**
 - * **Oral**
 - LD50 > 50000 mg/kg Rat
 - * **Dermal**
 - LD50 > 50000 mg/kg Rat
 - * **Inhalation**
 - LC50 > 2.04 mg/L 4 hr Rat
- **Skin corrosion/irritation**
 - not-irritating to skin
- **Serious eye damage/irritation**
 - minimally irritating to the eye
- **Respiratory sensitization**
 - Not available
- **Skin sensitization**
 - Not a sensitizer
- **Carcinogenicity**
 - * **IARC**
 - Not available
 - * **OSHA**
 - Not available
 - * **ACGIH**
 - Not available
 - * **NTP**
 - Not available
 - * **EU CLP**
 - Not available
- **Germ cell mutagenicity**
 - Not available
- **Reproductive toxicity**
 - Not available
- **STOT-single exposure**
 - Not available
- **STOT-repeated exposure**
 - Not available
- **Aspiration hazard**
 - Not available

12. ECOLOGICAL INFORMATION

A. Ecotoxicity

- **Fish**
 - [λ-Cyhalothrin] : LC50 0.00021 mg/ℓ 96 hr *Lepomis macrochirus* (Insoluble substances (Water solubility 1mg / L less than) acute toxicity is not classified)
 - [Propylene glycol] : LC50 = 710 mg/ℓ 96 hr *Oncorhynchus mykiss*
- **Crustaceans**
 - [λ-Cyhalothrin] : EC50 0.0000068 mg/ℓ 48 hr Other (Insoluble substances (solubility 1mg / L or less) is not classified acute toxicity)
 - [Propylene glycol] : EC50 > 1000 mg/ℓ 48 hr *Daphnia magna*
- **Algae**
 - [Propylene glycol] : EC50 > 1000 mg/ℓ 72 hr *Selenastrum capricornutum*

B. Persistence and degradability

- **Persistence**
 - [Water] : log Kow = -1.38
 - [λ-Cyhalothrin] : log Kow 7
 - [Propylene glycol] : log Kow = -1.4
- **Degradability**

- Not available

C. Bioaccumulative potential

o Bioaccumulative potential

- [λ-Cyhalothrin] : BCF 1063 (Estimates, Has the potential bioaccumulation)
- [Propylene glycol] : BCF < 1

o Biodegradation

- [λ-Cyhalothrin] : (Non - biodegradability-It does not decompose. High potential to be scaled in vivo (Estimates))
- [Propylene glycol] : Biodegradability > 60 (%) 10 day

D. Mobility in soil

- [λ-Cyhalothrin] : Koc 151200 (Estimates, Can be adsorbed in the soil)

E. Other adverse effects

- Not available

13. DISPOSAL CONSIDERATIONS

A. Disposal methods

- Since more than two kinds of designaed waste is mixed, it is difficult to treat separtly, then can be reduction or stabilization by incineration or similar process.
- If water separation is possible, pre-process with Water separation process.
- Dispose by incineration.

B. Special precautions for disposal

- The user of this product must disposal by oneself or entrust to waste disposer or person who other's waste recycle and dispose, person who establish and operate waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations.

14. TRANSPORT INFORMATION

A. UN No. (IMDG)

- 3082

B. Proper shipping name

- Environmentally hazardous substances, liquid, n.o.s.

C. Hazard Class

- 9

D. IMDG Packing group

- III

E. Marine pollutant

- Not applicable

F. Special precautions for user related to transport or transportation measures

- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- EmS FIRE SCHEDULE : F-A (General fire schedule)
- EmS SPILLAGE SCHEDULE : S-F (Water-soluble marine pollutants)

15. REGULATORY INFORMATION

A. National and/or international regulatory information

o POPs Management Law

- Not applicable

o Information of EU Classification

* Classification

- [λ -Cyhalothrin] : T+; R26 T; R25 Xn; R21 N; R50-53
- * **Risk Phrases**
 - [λ -Cyhalothrin] : R21, R25, R26, R50/53
- * **Safety Phrase**
 - [λ -Cyhalothrin] : S1/2, S28, S36/37/39, S38, S45, S60, S61
- o **U.S. Federal regulations**
 - * **OSHA PROCESS SAFETY (29CFR1910.119)**
 - Not applicable
 - * **CERCLA Section 103 (40CFR302.4)**
 - Not applicable
 - * **EPCRA Section 302 (40CFR355.30)**
 - Not applicable
 - * **EPCRA Section 304 (40CFR355.40)**
 - Not applicable
 - * **EPCRA Section 313 (40CFR372.65)**
 - Not applicable
- o **Rotterdam Convention listed ingredients**
 - Not applicable
- o **Stockholm Convention listed ingredients**
 - Not applicable
- o **Montreal Protocol listed ingredients**
 - Not applicable

16. OTHER INFORMATION

A. Reference

- The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.
- This Safety Data Sheet was compiled with data and information from the following sources: KOSHA, NITE, ESIS, NLM, SIDS, IPCS

B. Issue date

- 2014-06-26

C. Revision number and Last date revised

- 4 times, 2014-06-26

D. Other

- This MSDS is prepared according to the Globally Harmonized System (GHS).