



SAFETY DATA SHEET

SDS ID: 74530-54

1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	Kendo 22.8 CS
Product use / type:	Insecticide
EPA Registration No.:	74530-54
Chemical name / active ingredient(s):	Lambda-cyhalothrin
Manufacturer / Registrant:	Helm Agro US, Inc. 401 E. Jackson St., Suite 1400 Tampa, FL 33602
Manufacturer's Telephone:	813-621-8846
Email:	info@helmagro.com
Chemical emergencies:	1-800-424-9300 (Chemtrec)

2. HAZARDS IDENTIFICATION

This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200).

Classification

Skin Sensitization	Category 1
Acute Toxicity - Oral	Category 4
Acute Toxicity - Inhalation	Category 4
Acute Aquatic Toxicity	Category 1
Chronic Aquatic Toxicity	Category 1

EMERGENCY OVERVIEW

Signal Word: **WARNING**

Pictogram:



Appearance: Off-white to light yellow

Physical state: Liquid, viscous

Odor: Paint-like

Hazard Statements:

- Harmful if swallowed.
- Harmful if inhaled.
- May cause an allergic skin reaction.
- Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

- Wash hands thoroughly after handling.
- Avoid breathing mist / vapors / spray.
- Contaminated work clothing must not be allowed out of the workplace.
- Wear protective gloves.
- Use only outdoors or in a well-ventilated area.

- IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs get medical advice. Wash contaminated clothing before reuse.

- Store in a well-ventilated place. Keep container tightly closed.

- Dispose of content and container in accordance with local and national regulations.
- Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Other Information / Potential Hazards:

May cause mild eye irritation.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight %
Lambda-Cyhalothrin	91465-08-6	22.8
Acetophenone	98-86-2	8.6
Other ingredients	Proprietary	68.6

4. FIRST AID MEASURES

If in Eyes:	<ul style="list-style-type: none"> • Hold eye open and rinse gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing:	<ul style="list-style-type: none"> • Remove contaminated clothing and shoes. • Rinse skin with plenty of water for 15 minutes. If irritation develops, call a poison control center or seek medical advice.
If inhaled:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or get medical help, then give artificial respiration, preferably by mouth-to-mouth if possible. • Call a poison control center or seek medical advice.
If swallowed:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Do not give any liquid to the person. • Do not induce vomiting unless told to do so by a poison control center or doctor.

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	<ul style="list-style-type: none">Do not give anything by mouth to an unconscious person.
Note to Physician:	<ul style="list-style-type: none">Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties:	Non-flammable.
Extinguishing media	Water spray, alcohol resistant foam, CO ₂ , dry chemical
Unsuitable extinguishing media:	High pressure water streams.
Firefighting measures:	Move container from fire area if it can be done without risk. Use extinguishing media appropriate for surrounding fire. Do not allow contaminated firefighting water and spillage to enter sewers, drains and waterways.
Protective equipment and precautions for firefighters:	Wear full protective firefighting gear including self-contained breathing apparatus pressure demand (MSHA/NIOSH approved or equivalent).
Hazardous decomposition products:	Oxides of carbon and nitrogen. May release irritating and toxic vapors due to thermal decomposition.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Wear protective gloves / clothing and eye protection. Avoid contact with eyes, skin and clothing. Ensure adequate ventilation.
Environmental precautions:	Collect spillage. Keep out of waterways, sewers, drains and confined areas.
Methods for containment:	Contain spill with inert material (e.g. sand, silica gel, universal binder).
Methods for cleanup:	Soak up with inert absorbent material. Sweep and shovel into properly labeled containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling:	Use only with adequate ventilation. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product. Avoid breathing vapors or mists.
Precautions for safe storage:	Store and handle in accordance with all current regulations and standards. Store in a tightly closed container. Store in a cool, dry place. Store in a well-ventilated area. Keep away from incompatible materials.

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Incompatible storage situations: Separate pesticides during storage to prevent cross-contamination of other pesticides, fertilizers, food, and feed. Protect from extreme freezing temperatures.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Guidelines:

Acetophenone (CAS# 98-86-2): ACGIH: 10 ppm TWA

Engineering controls: Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye / face protection: Wear chemical-tight goggles.

Body / skin protection: Long sleeved shirt, long pants, shoes plus socks.

Hand protection: Wear gloves / hand protection.

Respiratory protection: If handling without sufficient ventilation, wear a dust / mist filtering approved respirator with organic cartridge(s).

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid, viscous
Appearance:	Off-white to light yellow
Odor:	Paint-like
pH:	3.4
Boiling point:	No information available
Flash point:	Not applicable
Relative density:	1.1 g/ml
Water solubility:	Miscible
Viscosity:	No information available
Log pow:	No information available

10. STABILITY AND REACTIVITY

Reactivity / chemical stability: Stable under normal temperature and conditions.

Conditions / Materials to avoid: Keep away from heat, sparks and flame.

Hazardous decomposition products: Oxides of carbon, oxides of nitrogen, hydrogen chloride, hydrogen fluoride

Hazardous reactions: Not expected under normal conditions of handling and use.

11. TOXICOLOGICAL INFORMATION

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Product toxicology data:

Acute oral LD50: Rat LD₅₀: >1000 mg/kg
Acute dermal LD50: Rat LD₅₀: >2000 mg/kg
Acute inhalation LC50: Rat 4-hr LC50: >2.06 mg/l
Eye irritation: Nonirritating
Skin irritation: Nonirritating
Sensitization: Caused sensitization in laboratory animal test.

Component toxicology:

Lambda-cyhalothrin: (91465-08-6)

Acute oral LD50: Rat LD₅₀: 56 mg/kg
Acute dermal LD50: Rat LD₅₀: 632 mg/kg
Acute inhalation LC50: Rat 4-hr LC50: 83 mg/m³

Acetophenone (98-86-2)

Acute oral LD50: Rat LD₅₀: 2650 mg/kg
Acute oral LD50: Rat LD₅₀: 815 mg/kg
Acute dermal LD50: Rat LD₅₀: 15900 uL/kg

Carcinogenicity: No component of this product present at 0.1% or greater is listed by IARC, OSHA, NIOSH or NTP.

Mutagenic effects: No information available

12. ECOLOGICAL INFORMATION

Environmental Hazards: Very toxic to aquatic life with long lasting effects. Do not apply to any body of water.

Component Ecotoxicity:

Acetophenone (98-86-2)

Fish: 96-hr LC50 *Pimephales promelas*: 162 mg/L flow
96-hr LC50 *Pimephales promelas*: 155 mg/L static

13. DISPOSAL CONSIDERATIONS

Product disposal: Wastes resulting from the use of this product that cannot be used or chemically reprocessed must be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, State or local procedures.

Container disposal: Emptied container retains vapor and product residue. Observe all labeled safeguards until container is destroyed.

EPA waste number: Waste codes should be assigned by the user based on the application for which the product was used.
RCRA U-Series: Acetophenone – U004

14. TRANSPORT INFORMATION

U.S. DOT: Not subject to DOT regulation in packages less than 119 gallons (450 liters).

UN3082, Environmentally hazardous substance, liquid, n.o.s.(lambda-cyhalothrin), 9, III

15. REGULATORY INFORMATION**U.S. Federal Regulations:**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Signal word: Warning

EPA Registration No.: 74530-54

May be fatal if swallowed. Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with eyes, skin or clothing. Avoid breathing (vapor or spray mist). Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals. Skin exposure may also result in a sensation described as a tingling, itching, burning, or prickly feeling. Onset may occur immediately to 4 hrs. after exposure and may last 2 – 30 hrs., without damage. Wash exposed areas once with soap and water. Relief from the skin sensation may be obtained by applying an oil-based cream. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Remove and wash contaminated clothing before reuse.

This product is extremely toxic to fish and other aquatic organisms. Do not contaminate water when cleaning equipment or disposing of equipment wash water. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Apply this product only as specified on this label. When making applications, care should be used to avoid household pets, particularly fish and reptile pets.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

TSCA:

All components of this product are listed on or are exempt from listing on the TSCA chemical inventory.

SARA 311/312:

Acute health

SARA 313:

Acetophenone

CERCLA:

Acetophenone: Final RQ 5000 lbs; 2270 Kg

U.S. State Regulations:**State Right-to-Know Regulations:**

Component	CAS No.	CA	MA	MN	NJ	PA
Lambda-cyhalothrin	91465-08-6		X		X	X
Acetophenone	98-86-2		X	X	X	X

California Proposition 65: No components listed

16. OTHER INFORMATION

NFPA Ratings:	Health	Fire	Instability
	1	0	0

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Revision No.: 2.1
Revision Date: 03 March 2017
Revision Note: Revised sections: 13 and 14.

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; GHS - Global Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Association; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Other information / Disclaimer

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE, except that the product shall conform to contracted specifications, and that the product does not infringe any valid United States or Canadian patent. No claim of any kind shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

End of Safety Data Sheet