



SAFETY DATA SHEET

SDS ID: 74530-38

1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	KENDO™ INSECTICIDE
Product use / type:	Insecticide
EPA Registration No.:	74530-38
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

Flammability	Category 4
Serious Eye Damage / Eye Irritation	Category 2A
Skin Corrosion / Irritation	Category 2
Acute Oral	Category 3
Acute Inhalation	Category 2
Carcinogenicity	Category 2
Acute Aquatic Toxicity	Category 1
Chronic Aquatic Toxicity	Category 1

EMERGENCY OVERVIEW

Signal Word: **DANGER**

Pictogram:



Appearance: Light yellow

Physical state: Liquid

Odor: Aromatic

Hazard Statements:

- H227 - Combustible liquid
- H301 – Toxic if swallowed.
- H330 – Fatal if inhaled.
- H315 – Causes skin irritation.

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- H351 – Suspected of causing cancer.
- H319 – Causes serious eye irritation.
- H411 - Toxic to aquatic life with long lasting effects.

Precautionary Statements:

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood.
- Keep away from heat, sparks, open flames and hot surfaces. No smoking.
- Take precautionary measures against static discharge.
- Wash hands thoroughly after handling.
- Avoid breathing mist, vapors and spray.
- In case of inadequate ventilation wear respiratory protection.
- Do not eat, drink or smoke when using this product.
- Wear eye or face protection. Wear protective gloves.
- Use only outdoors or in a well-ventilated areas.
- IF SWALLOWED: Immediately call a POISON CENTER or doctor if you feel unwell. Rinse mouth.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison control center, doctor or 911. Treatment is urgent.
- IF IN EYES: Rinse cautiously for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists get medical attention.
- IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs get medical advice. Take off contaminated clothing and wash before reuse.
- If exposed or concerned: Get medical attention / advice.
- In case of fire: Use water spray, alcohol resistant foam, dry chemical or carbon dioxide.
- Store locked up. Store in a cool well-ventilated place. Keep container tightly closed.
- Dispose of content and container in accordance with local and national regulations.

Other Information / Potential Hazards:

Harmful to aquatic life. May cause long-term adverse effects in the aquatic environment.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight %
Lambda-Cyhalothrin	91465-08-6	13.3
Mixture of Alkyl Aryl Sulfonate, Nonionic Surfactants and Solvents	Not available	60 – 100**

**** Exact concentration of components withheld as a trade secret.**

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.

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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.. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.• 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.• Do not give anything by mouth to an unconscious person.
Note to Physician:	<ul style="list-style-type: none">• Treat symptomatically. Contains a petroleum distillate – vomiting may cause aspiration pneumonia.

5. FIRE-FIGHTING MEASURES

Flammable properties:	Combustible liquid
Extinguishing media	Water spray, alcohol resistant foam, CO ₂ , dry chemical
Unsuitable extinguishing media:	High pressure water streams.
Firefighting measures:	Evacuate area. 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, nitrogen and sulfur. 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,

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universal binder).

Methods for cleanup:

Soak up with inert absorbent material. Do not use combustible material. Sweep and shovel into properly labeled containers for disposal. Do not use solvents.

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. Remove contaminated clothing and clean before use.

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.

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:

Component	NIOSH – TWA / STEL	ACGIH – TWA / STEL	OSHA – TWA / STEL
Naphthalene (91-20-3)	10 ppm (50 mg/m ³) / 15 ppm (75 mg/m ³)	10 ppm / 15 ppm Skin 2B	10 ppm (50 mg/m ³) / 15 ppm
1,2,4-Trimethylbenzene (95-63-6)	25 ppm (125 mg/m ³)	Not established	Not established

Engineering controls:

Ensure good adequate local 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
Appearance:	Light yellow

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Odor:	Aromatic
pH:	5.2
Boiling point:	No information available
Flash point:	>66°C / 151°F (Estimated)
Relative density:	0.93 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. Incompatible with strong oxidizing agents.
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

Product toxicology data:

Acute oral LD50:	Rat LD ₅₀ : 175 mg/kg
Acute dermal LD50:	Rat LD ₅₀ : >5000 mg/kg
Acute inhalation LC50:	Rat 4-hr LC ₅₀ : 0.05 – 0.52. mg/l
Eye irritation:	Moderately irritating to the eye
Skin irritation:	Severely irritating to skin.
Sensitization:	Non-sensitizing in animal studies.

Component toxicology:

Lambda-cyhalothrin: (91465-08-6)	
Acute oral LD50:	Rat LD ₅₀ : 56 mg/kg
Acute dermal LD50:	Rat LD ₅₀ : 632 mg/kg
Acute inhalation LC50:	Rat 4-hr LC ₅₀ : 83 mg/m ³
Solvent naptha heavy aromatic (64742-94-5)	
Acute oral LD50:	Rat LD ₅₀ : >6000 mg/kg (data on structurally similar material)
Acute dermal LD50:	Rat LD ₅₀ : >2000 mg/kg (data on structurally similar material)
Carcinogenicity:	IARC – Naphthalene listed Group2B
Mutagenic effects:	No information available

12. ECOLOGICAL INFORMATION

Environmental Hazards:	Toxic to aquatic life with long lasting effects. Do not
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apply to any body of water. Keep out of drains and water courses.

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. Do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters.

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

14. TRANSPORT INFORMATION

U.S. DOT: UN3352, Pyrethroid pesticide, liquid, toxic, 6.1, PG II

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.: 74530-38

May be fatal if swallowed or inhaled. Causes substantial but temporary eye injury. Causes skin irritation. Do not get in eyes or skin or clothing. Do not breath vapor or spray mist. Harmful if absorbed through skin. Wear appropriate protective clothing and eye wear as specified in the Personal Protective Equipment (PPE) section of this label. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Remove and wash contaminated clothing before reuse.

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 hours after exposure and may last 2 – 30 hours, without damage. Wash exposed areas once with soap and water. Relief from the skin sensation may be obtained by applying an oil-based cream.

Personal Protective Equipment (PPE)

Follow instructions for Category E on EPA chemical resistant category selection chart. Discard clothing and other absorbent material that have been drenched or heavily contaminated with this product's concentrate. DO NOT reuse them. Follow manufacturer's instructions for cleaning / maintaining PPE. If not such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Environmental Hazards

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This product is toxic to fish, aquatic invertebrates and other wildlife. To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash the pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems. 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.

Physical and Chemical Hazards

Combustible liquid. Do not use or store near heat or open flame.

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

SARA 311/312: Acute health; Chronic health; Fire

SARA 313 (>0.1%): Naphthalene; 1,2,4-Trimethylbenzene

CERCLA: Naphthalene RQ 100 pounds

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
Naphthalene	91-20-3				X	X
1,2,4-Trimethylbenzene	95-63-6				X	X

California Proposition 65: This product contains one or more substances known to the state of California to cause cancer and/or reproductive/developmental effects.

16. OTHER INFORMATION

NFPA Ratings:	Health	Fire	Instability
	3	1	0

Revision No.: 3.0

Revision Date: 07 May 2015

Revision Note: Address change

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;

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RCRA - Resource Conservation and Recovery Act; RQ – Reportable Quantity; 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