



1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **KILTER Insecticide**

EPA Reg. No.: 228-717

Product Type: Insecticide

Company Name: Nufarm Americas Inc.
11901 S. Austin Avenue
Alsip, IL 60803

Telephone Numbers: For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,
Call CHEMTREC Day or Night: 1-800-424-9300
For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not exactly the same as on the FIFRA label. Certain sections are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

2. HAZARDS IDENTIFICATION

HEALTH HAZARDS:

Acute toxicity, oral	Category 4
Acute toxicity, inhalation	Category 4
Skin irritation	Category 3
Sensitizer, skin	Category 1B
Eye irritation	Category 2A
Specific target organ toxicity – Repeat exposure	Category 2

ENVIRONMENTAL HAZARDS:

Hazardous to aquatic environment, acute	Category 1
Hazardous to aquatic environment, chronic	Category 1

SIGNAL WORD:

WARNING

HAZARD STATEMENTS:

Harmful if swallowed or inhaled. Causes mild skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause damage to organs (heart, liver, blood chemistry, central nervous system, and thyroid) through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.



PRECAUTIONARY STATEMENTS:

Wash hands and exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth.

Avoid breathing mists/vapors/spray. Use only outdoors or in well-ventilated area. If inhaled: Remove person to fresh air and keep comfortable for breathing.

If skin irritation occurs: Get medical advice/attention.

Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves. If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Wear eye protection/face protection. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Avoid release to the environment. Collect spillage. Dispose of contents/container in accordance with local/regional/national/international regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	% BY WEIGHT
Imidacloprid	138261-41-3	13.77–15.22
Lambda-cyhalothrin	91465-08-6	10.32–11.40
Propylene glycol	57-55-6	7.6 – 8.4
Other Ingredients	Trade Secret	Trade Secret

Synonyms: Mixture of Imidacloprid (1 [(6-Chloro-3-pyridinyl)methyl]-*N*-nitro-2-imidazolidinimine) and Lambda-cyhalothrin ((*R+S*)-alpha-Cyano-3-phenoxybenzyl (1*S*+1*R*)-*cis*-3-(*Z*-2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for 15 to 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 Swallowed: 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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Most Important symptoms/effects, acute and delayed: Causes severe eye irritation. Eye damage may be irreversible if immediate treatment is not sought. Brief skin exposure may cause moderate irritation. Prolonged exposure or overexposure may cause paresthesia (rash, tingling, numb, or burning sensation) which is characteristic of overexposure of the skin to pyrethroid insecticides. Dermal absorption is typically minimal. Systemic intoxication resulting from overexposure to the skin is not expected. Eye exposure may cause mild irritation. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals.

Indication of Immediate medical attention and special treatment if needed, if necessary: Seek immediate medical attention for eye exposure. Seek immediate medical attention for overexposure resulting in stupor, rapid breathing and heartbeat, profuse sweating and/or seizures

Note to Physician: Probable mucosal damage may contraindicate the use of a gastric lavage.

5. FIRE FIGHTING MEASURES

Flash Point: Non-flammable due to this being an aqueous composition.

Extinguishing Media: Recommended for large fires: foam or water spray. Recommended for small fires: dry chemical or carbon dioxide.

Special Fire Fighting Procedures: Firefighters should wear NIOSH approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as hydrogen chloride and oxides of carbon and nitrogen.

6. ACCIDENTAL RELEASE MEASURES

If container is leaking or material spilled for any reason or cause, carefully dam up spilled material according to instructions below to prevent runoff. Refer to Precautionary Statements on the label or this SDS for hazards associated with the handling of this material. **DO NOT** walk through spilled material.

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Cleanup and Disposal: Pump any free liquid into an appropriate closed container. Collect washings for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Other Information: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

HANDLING:

Avoid contact with eyes, skin or clothing. Causes irreversible eye damage. Users should wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing/Personal Protective Equipment (PPE) immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Handle and open container in a manner as to prevent spillage. If the container is leaking, invert to prevent leakage.

STORAGE:

Do not store product in areas that exceed temperatures of greater than 110° F. Do not store near or use with oxidizing agents. Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area. Do not contaminate water, food, or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Personal Protective Equipment:

Eye/Face Protection: To avoid contact with eyes, wear face shield, goggles or safety glasses with front, brow and temple protection. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long-sleeved shirt and long pants, chemical-resistant footwear plus socks, and chemical-resistant gloves made of any waterproof material. An emergency shower or water supply should be readily accessible to the work area.

Respiratory Protection: Not normally required. If vapors, mists or dusts exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where

this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Imidacloprid	NE	NE	NE	NE	NE
Lambda Cyhalothrin	NE	NE	NE	NE	NE
Propylene glycol	10 (WEEL)	NE	NE	NE	mg/m ³
Other Ingredients	NE	NE	NE	NE	

NE = Not Established

WEEL = AIHA Workplace Environmental Exposure Levels

TWA = Time Weighted Average

STEL = Short Term Exposure Limit

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White flowable liquid
Odor:	Mild odor
Odor threshold:	No data available
pH:	5.29 (1% w/w dilution in DIW)
Melting point/freezing point:	No data available
Initial boiling point and boiling range	No data available
Flash point:	>212° F (>100° C)
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Relative density:	1.10 g/mL @ 20° C
Solubility(ies):	No data available
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	456 cPs @ 25 °C; 400 cPs @ 39 °C (50 RPM) (Brookfield)

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.

Chemical Stability: This material is stable under normal handling and storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Elevated temperatures and extreme humidity.

Incompatible Materials: Strong oxidizing agents: bases and acids.

Hazardous Decomposition Products: Under fire conditions may produce gases such as hydrogen chloride, hydrogen cyanide, hydrogen fluoride, and oxides of carbon and nitrogen.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, eye and skin contact.

Eye Contact: Severely irritating - corrosive. Liquid or vapors (mists) may cause irritation.

Skin Contact: Moderately irritating. Skin exposure may also result in a sensation described as tingling, itching, burning, or prickly feeling (parasthesia). Onset may occur immediately to 4 hours after exposure and may last 2 to 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.

Ingestion: May be harmful if swallowed. Overexposure (inhalation or ingestion) may result in tremors, convulsions, incoordination, decreased locomotion and nasal discharge, including bleeding. May include tremors, convulsions, incoordination, decreased locomotion and nasal discharge, including bleeding. In addition, contact with bifenthrin may occasionally produce skin sensations such as rashes, numbing, burning or tingling. These skin sensations are reversible and usually subside within 12 hours.

Inhalation: Low inhalation toxicity based on toxicity studies. Mists may cause upper respiratory tract irritation, coughing, sore throat if inhaled.

Delayed, immediate and chronic effects of exposure: None presently known.

Toxicological Data:

Data from laboratory studies conducted on this material:

Oral: Rat LD₅₀: >310.2 mg/kg

Dermal: Rat LD₅₀: >5,000 mg/kg

Inhalation: Rat 4-hr LC₅₀: >2.07 to < 5.11 mg/L

Eye Irritation: Rabbit: Severely irritating - corrosive.

Skin Irritation: Rabbit: Moderately irritating. (PDI= 2.9)

Skin Sensitization: The test substance is considered to be a contact dermal sensitizer.

Subchronic (Target Organ) Effects: Repeated overexposure to imidacloprid may affect blood chemistry, the heart, thyroid, and liver. For lambda-cyhalothrin, contact with exposed skin may result in temporary itching, tingling, burning or numbness, called paresthesia. The symptoms normally disappear within 24 hours. Face and genital areas are especially susceptible to this effect. Paresthesia involving the face is also known as "subjective facial sensation" or SFS. Repeated overexposure to lambda-cyhalothrin may affect the liver and central nervous system.

Carcinogenicity / Chronic Health Effects: Prolonged overexposure to imidacloprid can cause effects to the thyroid. Imidacloprid did not cause cancer in laboratory animal studies. The U.S. EPA has given imidacloprid a Group E classification (evidence of non-carcinogenicity in humans). Prolonged overexposure to lambda-cyhalothrin may affect the liver, but no treatment-related tumors were observed in rats or mice.

Reproductive Toxicity: In a two-generation reproduction study in rats, imidacloprid produced reduced mean body weights and body weight gains. No other reproductive effects were observed. In studies with animals, lambda-cyhalothrin was not a reproductive toxicant.

Developmental Toxicity: Rat and rabbit studies on imidacloprid resulted in skeletal abnormalities, increased resorptions (rabbits) and reduced body weight gains at doses that were also toxic to mother animals. In studies with animals, lambda-cyhalothrin was not a development toxicant.

Genotoxicity: The imidacloprid in vitro bacterial and in vivo animals mutagenicity studies, taken collectively, demonstrate that imidacloprid is not genotoxic or mutagenic. Animal tests with lambda-cyhalothrin did not demonstrate mutagenic effects.

Assessment Carcinogenicity: None listed with ACGIH, IARC, NTP or OSHA.

See Section 2: HAZARDS IDENTIFICATION for more information.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data on Imidacloprid Technical:

96-hour LC ₅₀ Rainbow Trout:	211 mg/l	Japanese Quail Oral LD ₅₀ :	31 mg/kg
48-hour EC ₅₀ Daphnia:	85 mg/l	Bobwhite Quail Oral LD ₅₀ :	152 mg/kg
96-hour LC ₅₀ Mysid:	0.038 ppm	House Sparrow Oral LD ₅₀ :	41 mg/kg
96-hour LC ₅₀ Bluegill:	>105 mg/l	Bobwhite Quail 8-day Dietary LC ₅₀ :	1535 ppm
48-hour Honey Bee Oral LD ₅₀ :	0.0039 µg/bee	Mallard Duck 8-day Dietary LC ₅₀ :	>4797 ppm
48-hour Honey Bee Contact LD ₅₀ :	0.078 µg/bee		

Data on Lambda-Cyhalothrin Technical:

96-hour LC50 Bluegill:	0.00021 ppm	Bobwhite Quail 8-day Dietary LC50:	>5,300 ppm
96-hour LC50 Rainbow Trout:	0.00024 ppm	Mallard Duck 8-day Dietary LC50:	>3,948 ppm
48-hour EC50 Daphnia:	0.00036 ppm	Mallard Duck LC50:	3,950 mg/kg
Honey Bee Oral LD50:	0.038 µg/bee		

Environmental Fate:

Hydrolysis half-life of imidacloprid is greater than 30 days at pH 7 and 25°C. The aqueous photolysis half-life is less than 3 hours. The soil surface photolysis of imidacloprid has a half-life of 39 days, and in soil, the half-life ranged from 26 to 229 days.

Lambda-Cyhalothrin is moderately persistent in the soil. The reported half-lives range from 4 to 12 weeks. It shows a high affinity for soil with a reported Koc of 180,000. Lambda-Cyhalothrin has extremely low water solubility and is tightly bound to soil.

13. DISPOSAL CONSIDERATIONS**Waste Disposal Method:**

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

Container Handling and Disposal:

Nonrefillable Containers 5 Gallons or Less: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

Nonrefillable containers larger than 5 gallons: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers larger than 5 gallons: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this MSDS.

DOT**< 119 gallons per completed package**

UN 3352, Pyrethroid pesticide, liquid, toxic, 6.1, III, (lambda cyhalothrin)

≥ 119 gallons per completed package

UN 3352, Pyrethroid pesticide, liquid, toxic, 6.1, III, (lambda cyhalothrin, imidacloprid), Marine Pollutant

IMDG

UN 3352, Pyrethroid pesticide, liquid, toxic, 6.1, III, (lambda cyhalothrin, imidacloprid), Marine Pollutant

IATA

UN 3352, Pyrethroid pesticide, liquid, toxic, 6.1, III, (lambda cyhalothrin)

15. REGULATORY INFORMATION**EPA FIFRA INFORMATION**

This chemical is a pesticide product registered by the United States 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 (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

DANGER. Corrosive. Causes irreversible eye damage. May be fatal if swallowed. Causes skin irritation. Avoid contact with eyes, skin or clothing. Wear protective eyewear. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Skin exposure may also result in a sensation described as tingling, itching, burning, or prickly feeling. Onset may occur immediately to 4 hours after exposure and may last 2 to 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.

U.S. FEDERAL REGULATIONS

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:**Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):**

Immediate and Delayed

Section 313 Toxic Chemical(s):

None

Reportable Quantity (RQ) under U.S. CERCLA:

None

RCRA Waste Code:

None

State Information:

Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not Listed

16. OTHER INFORMATION**National Fire Protection Association (NFPA) Hazard Rating:**

Rating for this product: Health: 3 Flammability: 1 Reactivity: 0

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that

labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND ALL SUCH WARRANTIES ARE HEREBY SPECIFICALLY DISCLAIMED.

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