

MATERIAL SAFETY DATA SHEET

Tenkoz Inc.

PROLEX* INSECTICIDE

Emergency Phone: 800-424-9300

Tenkoz Inc.

Alpharetta, GA 30022

Effective Date: 4/23/04

Product Code: 57683

MSDS: 007574

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Prolex* Insecticide

COMPANY IDENTIFICATION:

Tenkoz Inc.

100 North Point Center East

Alpharetta, GA 30022

2. COMPOSITION/INFORMATION ON INGREDIENTS:

Gamma-Cyhalothrin:	CAS # 076703-62-3	14.4%
[1R-[1-alpha(S*),3-alpha (Z)]]-cyano(3-phenoxyphenyl) methylester-3-(2-chloro-3,3,3-trifluoro- 1-propenyl)-2,2-dimethylcyclo- propanecarboxylate acid		
Other Ingredients, Total, Including		85.6%
Aromatic Solvent	CAS # 064742-94-5	
contains Naphthalene	CAS # 000091-20-3	
Polyvinyl Alcohol	CAS # 009002-89-5	

3. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

White to off-white liquid with an aromatic odor. May cause eye and/or skin irritation. LD₅₀ for skin absorption is 5000 mg/kg. Oral LD₅₀ is 2250 and 2646 mg/kg. Aerosol LC₅₀ is >2.72 and 2.54 mg/L. Toxic to aquatic organisms.

EMERGENCY PHONE NUMBER: 800-424-9300

POTENTIAL HEALTH EFFECTS: This section includes possible adverse effects, which could occur if this material is not handled in the recommended manner.

EYE: May cause moderate eye irritation. Corneal injury is unlikely.

SKIN: Brief contact may cause slight skin irritation with local redness. May cause drying or flaking of the skin. Prolonged skin contact is unlikely to result in absorption of harmful amounts. For a similar material, the LD₅₀ for skin absorption in rats is >5000 mg/kg. Similar materials have been shown to cause allergic skin reactions when tested in guinea pigs.

INGESTION: Low toxicity if swallowed. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. May cause central nervous system effects. Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia. The oral LD₅₀ for rats for a similar material is between 2250 mg/kg (males) and 2646 mg/kg (females).

INHALATION: Prolonged excessive exposure may cause adverse effects. May cause central nervous system effects. The aerosol LC₅₀ for rats for a similar material is >2.72 mg/L (males) and 2.54 mg/L (females).

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: For the active ingredient, excessive exposure may cause neurologic signs and symptoms. For the aromatic solvent, in animals, effects have been reported on the following organs: lungs, stomach, thyroid gland and urinary tract. Cataracts and other eye effects have been reported in humans repeatedly exposed to naphthalene vapor or dust.

CANCER INFORMATION: Contains naphthalene, which has caused cancer in some laboratory animals.

TERATOLOGY (BIRTH DEFECTS): The active ingredient did not cause birth defects in the fetus even at doses which caused toxic effects to the mother. The solvent did not cause birth defects or any other fetal effects in laboratory animals.

REPRODUCTIVE EFFECTS: For the active ingredient, in animal studies conducted with a similar material, has been shown not to interfere with reproduction.

4. FIRST AID:

EYE: Flush eyes thoroughly with water for several minutes. Remove contact lenses after initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

SKIN: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Items which cannot be decontaminated, including leather articles such as shoes, belts, and watchbands should be disposed of properly.

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INGESTION: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

INHALATION: Move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

NOTE TO PHYSICIAN: If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. The decision of whether to induce vomiting or not should be made by a physician. Skin contact may aggravate preexisting dermatitis. Topical application of Vitamin E oil to skin following decontamination may relieve persistent stinging. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES:

FLASH POINT: >100°C (>212°F) aqueous suspension

METHOD USED: SCC

FLAMMABLE LIMITS

LFL: Not applicable

UFL: Not applicable

EXTINGUISHING MEDIA: Dry chemical or carbon dioxide for small fires, and water spray or foam for large fires.

FIRE AND EXPLOSION HAZARDS: Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Toxic irritating gases may be formed under fire conditions.

FIRE-FIGHTING EQUIPMENT: Use a positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply and full protective equipment.

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS: Absorb small spills with materials such as sand, sawdust, Zorball, or dirt. Wash exposed body areas thoroughly after handling. Report large spills to Chemtrec at 800-424-9300.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors and spray mist. Handle concentrate in ventilated area. Wash thoroughly with soap and water after handling and before eating, chewing gum, using tobacco, using the toilet or smoking. Keep away from food, feedstuffs, and water supplies. Store in original container with the lid tightly closed. Avoid extremes of cold and hot temperatures. Prolonged storage can cause a slight settling, lightly shake container before use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINES:

Aromatic solvent (petroleum solvent): None established. Supplier recommends a guideline of 100 ppm for the total product, which is a mixture of aromatic hydrocarbons.

Naphthalene: ACGIH TLV is 10 ppm TWA, 15 ppm STEL, Skin, A4. OSHA PEL is 10 ppm TWA.

Polyvinyl alcohol: Dow AgroSciences Industrial Hygiene is 10 mg/M3.

A "skin" notation following the exposure guideline refers to the potential for dermal absorption of the material including mucous membranes and the eyes either by contact with vapors or by direct skin contact. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

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RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

EYE/FACE PROTECTION: Use chemical goggles.

SKIN PROTECTION: Use gloves chemically resistant to this material.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required, use a NIOSH approved air-purifying or positive-pressure supplied-air respirator depending on the potential airborne concentration. For emergency and other conditions where the exposure guideline may be exceeded, use a NIOSH approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply.

APPLICATORS AND ALL OTHER HANDLERS: Refer to the product label for personal protective clothing and equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE: White to off-white liquid

ODOR: Aromatic

MOLECULAR WEIGHT: 449.85

VAPOR PRESSURE: 7.73×10^{-10} mmHg @ 20°C
 2.59×10^{-9} mmHg @ 25°C

SOLUBILITY IN WATER: Dispersible(aqueous suspension)

MELTING POINT: Below 0°C

SPECIFIC GRAVITY: 1.034 g/mL @ 20°C

pH: 5.64

10. STABILITY AND REACTIVITY:

STABILITY: (CONDITIONS TO AVOID) Stable under normal use and storage conditions.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, hydrogen chloride, hydrogen fluoride, nitrogen oxides, hydrogen cyanide, and various chlorinated and fluorinated organic compounds.

HAZARDOUS POLYMERIZATION: Not known to occur.

11. TOXICOLOGICAL INFORMATION:

MUTAGENICITY: For a similar material, in-vitro genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL FATE:

MOVEMENT & PARTITIONING:

Based largely or completely on information for gamma-cyhalothrin and the aromatic solvent.

Bioconcentration potential is high (BCF is >3000 or Log P_{ow} between 5 and 7).

DEGRADATION & PERSISTENCE:

Based largely or completely on information for the aromatic solvent.

Biodegradation may occur under aerobic conditions (in the presence of oxygen).

ECOTOXICOLOGY:

Based largely or completely on information for a similar material.

Material is very highly toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is <0.1 mg/L in the most sensitive species tested).

Acute LC₅₀ in rainbow trout (*Oncorhynchus mykiss*) is 0.00919 mg/L.

Acute immobilization EC₅₀ in water flea (*Daphnia magna*) is 1.54E-4 mg/L.

Growth inhibition EC₅₀ in green alga (*Selenastrum capricornutum*) is 137 mg/L.

Material is practically non-toxic to birds on an acute basis (LD₅₀ is >2000 mg/kg).

Acute oral LD₅₀ for bobwhite (*Colinus virginianus*) is >2000 mg/kg.

Acute oral LD₅₀ in honeybee (*Apis mellifera*) is 1.259 µg/bee.

Acute contact LD₅₀ for honeybee (*Apis mellifera*) is 0.030 µg/bee.

The LC₅₀ for earthworm (*Eisenia foetida*) is >1000 mg/kg.

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: Do not contaminate water, food, or feed by storage or disposal. Excess wastes resulting from the use of this product may be disposed of on site according to label directions or at an approved waste disposal facility. Follow all local, state, and federal requirements for disposal.

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14. TRANSPORT INFORMATION:

U.S. DEPARTMENT OF TRANSPORTATION (DOT) INFORMATION:

For shipments of less than 7142 pounds by all modes of transportation:

This substance is not regulated for transport.

For shipments of 7142 pounds or greater by all modes of transportation:

ENVIRONMENTALLY HAZARDOUS SUBSTANCES,
LIQUID, N.O.S./(NAPHTHALENE)/9/UN3082/PG III/RQ
(NAPHTHALENE)

15. REGULATORY INFORMATION:

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

U.S. REGULATIONS

SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
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Naphthalene	000091-20-3	1.4%
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SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Section 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard
A delayed health hazard

CALIFORNIA PROPOSITION 65: The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains a chemical(s) known to the State of California to cause cancer. **WARNING:** This product contains a chemical (naphthalene) which is known to the State of California to cause cancer. The chemical is Naphthalene (CAS 000091-20-3)

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME	CAS NUMBER	LIST
Naphthalene	000091-20-3	NJ2 NJ3 PA1 PA3

NJ2=New Jersey Environmental Hazardous Substance (present at greater than or equal to 1.0%).

NJ3=New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).

PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).

PA3=Pennsylvania Environmental Hazardous Substance (present at greater than or equal to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Health	2
Flammability	2
Reactivity	0

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): This product contains the following substance(s) listed as "Hazardous Substances" under CERCLA, which may require reporting of releases:

Chemical Name	CAS#	RQ	% in Product
Naphthalene	000091-20-3	100	1.4%

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RCRA CATEGORIZATION:

U.S. EPA Hazardous Waste # U165 (Naphthalene)

16. OTHER INFORMATION:

MSDS STATUS: Revised Product Name

Reference: DR-0382-6173

Replaces MSDS Dated: 2/16/04

The Information Herein Is Given In Good Faith, But No
Warranty, Express or Implied, Is Made. Consult Tenkoz
Inc. for Further Information.