MATERIAL SAFETY DATA SHEET

TENGARD® SFR ONE SHOT TERMITICIDE **Revision: 3** **Date Issued: 10/12/04**

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company: United Phosphorus, Inc.
423 Riverview Plaza
Trenton, NJ 08611
Product Information: 1-800-247-1557 or www.upi-usa.com
Product Name: TENGARD® SFR *ONE SHOT TERMITICIDE*
Product Use: Insecticide

FOR MEDICAL EMERGENCY: call the National Poison Information Center at 1-800-858-7378
FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS#	WT. %	TWA, ppm
Permethrin	52645-53-1	39.1	None
Hydrocarbon Solvent	8052-41-3	26.0	100 (OSHA)
Triacetin	102-76-1	25.9	None
Surfactant Blend	None	<10.0	None
Component of product ingredients include:			
1,2,4-trimethylbenzene	95-63-6	<4.0	25 (OSHA)
Ethylbenzene	100-41-4	<0.03	100 (OSHA)

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

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance and Odor Amber liquid with faint mild petroleum odor.

Routes of Exposure Mist inhalation, skin contact

Immediate Effects Effects from overexposure result from ingestion or coming into contact with the skin or eyes. Symptoms of overexposure include increased hypersensitivity to touch and sound, tremors and convulsions. Contact with permethrin may produce skin sensations such as numbing, burning or tingling. These skin sensations are reversible and usually subside within 12 hours.

Medical Conditions Aggravated by Exposure None known

SECTION 4 FIRST AID MEASURES

IF SWALLOWED

Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. 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 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF IN EYES

Hold eye open and rinse slowly and 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 further 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.

NOTE TO PHYSICIAN Contains petroleum distillates – vomiting may cause aspiration pneumonia.

SECTION 5 FIRE FIGHTING MEASURES

FLASH POINT 44 ºC (111 ºF)

EXTINGUISHING MEDIA Foam, CO_2 or dry chemical. Soft stream water fog only if necessary. Contain all runoff.

FIRE/EXPLOSION Moderately combustible. When heated above the flash point, this material releases

HAZARDS	vapors which, when mixed with air, can burn or be explosive.
HAZARDOUS DECOMPOSITION PRODUCTS	Carbon monoxide and/or carbon dioxide. Chlorine and hydrogen chloride may be formed.
FIRE FIGHTING PROCEDURES	Isolate fire area. Evacuate downwind. Wear full protective clothing and self contained breathing apparatus. Do not breathe smoke, gases or vapors generated.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Isolate and post spill area. Wear protective clothing and personal protective equipment as prescribed in Section 8 "Exposure Controls/Personal Protection". Keep unprotected persons and animals out of the area. Keep material out of lakes, streams, ponds and sewers drains. Dike to confine spill and absorb with an absorbent such as clay, sand or soil. Vacuum, shovel or pump waste into a drum and label contents for disposal.

To clean and neutralize spill area, tools and equipment, wash with a suitable solution of bleach or caustic/soda ash and an appropriate alcohol (methanol, ethanol or isopropanol). Follow this by washing with a strong soap and water solution. Absorb as above, any excess liquid and add to the drums of waste already collected. Repeat if necessary. Dispose of drummed waste according to the method outlined in Section 13 "Disposal Considerations".

SECTION 7 HANDLING AND STORAGE

HANDLING AND STORAGE PROCEDURES	Store in a cool, dry, well-ventilated place. Do not use or store near heat, open flame or hot surfaces. Store in original containers only. Store at temperatures above 40 ºF (5 ºC). If crystals form, warm to room temperature by placing container in a room at ambient temperature 70 ºF (21 ºC) until crystals dissolve and product appears uniform. Do not use external source of heat for warming container. Shake container well before using. Keep out of reach of children and animals. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS	Use local exhaust at all process locations where vapor or mist may be emitted. Ventilate all transport vehicles prior to unloading.
EYES/FACE PROTECTION	For splash, mist or spray exposure, wear chemical protective goggles or a face shield.
RESPIRATORY PROTECTION	For splash, mist or spray exposure, wear, as a minimum, a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (U.S. NIOSH/MSHA, EU CEN or comparable certification organization). Respirator use and selection must be based on airborne concentrations.
PROTECTIVE CLOTHING	Depending upon concentrations encountered, wear coveralls or long sleeved uniform and head covering. For larger exposures as in the case of spills, wear full body covered barrier suit, such as a PVC suit. Leather items- such as shoes, belts and watch bands – that become contaminated should be removed and destroyed. Launder all work clothing before reuse (separately from household laundry).
GLOVES	Wear chemical protective gloves made of materials such as nitrile, neoprene, or Viton® brand. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.
WORK HYGIENIC PRACTICES	Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking or using tobacco. Shower at the end of the workday.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

ODOR: Faint mild petroleum odor
SOLUBILITY IN WATER: Emulsifies
pH: 4.8-5.0 at 20 ºC (6% in water)
APPEARANCE: Amber liquid
WEIGHT PER VOLUME: 8.65 lbs./gal.
SPECIFIC GRAVITY: 1.039 at 20 ºC

SECTION 10 STABILITY AND REACTIVITY

CHEMICAL STABILITY	Stable
CONDITIONS TO AVOID	Excessive heat and fire
HAZARDOUS DECOMPOSITION PRODUCTS	Carbon monoxides, carbon dioxide, hydrogen cyanide, chlorine and hydrogen chloride
POLYMERIZATION	Will not occur

SECTION 11 TOXICOLOGICAL INFORMATION

DERMAL LD_{50}	>2000 mg/kg (rabbit)
ORAL LD_{50}	1030 mg/kg (rat)
INHALATION LC_{50}	>25.7 mg/L/4 hrs (rat)

ACUTE EFFECTS FROM OVEREXPOSURE

This product has low oral, dermal and inhalation toxicity. It is moderately irritating to the skin and eyes. Experience to date indicates that contact with permethrin has rarely produced skin sensations such as numbing, burning or tingling. These skin sensations are reversible and usually subside within 12 hours. Large, toxic doses of permethrin administered to laboratory animals have produced symptoms such as diarrhea, salivation, tremors, intermittent convulsions. Overexposure to animals via inhalation has also produced hyperactivity and hypersensitivity. Exposure to aromatic hydrocarbons can irritate the skin. Vomiting after ingestion of this product may cause aspiration of aromatic hydrocarbons into the lungs that may result in fatal pulmonary edema.

CHRONIC EFFECTS FROM OVEREXPOSURE

No data available for TENGARD ONE SHOT Termiticide. In studies with laboratory animals, permethrin did not cause reproductive toxicity or teratogenicity. Analysis of chronic feeding studies in both mice and rats with permethrin resulted in the conclusion that permethrin's potential for induction of oncogenicity in experimental animals is low and that the likelihood of oncogenic effects in humans is nonexistent or extremely low. Long term feeding studies in animals resulted in increased liver and kidney weights, induction of the liver microsomal drug metabolizing enzyme system, and histopathological changes in the lungs and liver. An overall absence of genotoxicity has been demonstrated in mutagenicity testing with permethrin. Prolonged and/or repeated skin contact to aromatic hydrocarbons may cause dermatitis. High concentration of aromatic hydrocarbon vapors may be irritating to eyes and respiratory system and act as an anesthetic.

CARCINOGENICITY

IARC	Not listed
NTP	Not listed
OSHA	Not listed
OTHER (ACGIH)	Not listed

SECTION 12 ECOLOGICAL INFORMATION

Unless indicated, the information presented below is for the active ingredient, permethrin.

PHYSICAL/ ENVIRONMENTAL PROPERTIES

In soil, permethrin is stable over a wide range of pH values. When applied at agricultural use rates, permethrin has a moderate rate of degradation in soil. At termiticidal use rates, permethrin degrades at a slower rate which is governed by soil characteristics such as soil type, microbial population, concentration in soil and aerobic conditions of soils. Due to its high affinity for organic matter (Koc=86,000), there is little potential for movement in soil or entry into ground water. Permethrin has a Log P_{ow} of 6.1, but a low potential to bioconcentrate (BCF = 500) due to the ease with which it is metabolized.

ECOTOXICOLOGICAL INFORMATION

Permethrin is highly toxic to fish (LC_{50} = 0.5 µg/L to 315 µg/L) and aquatic arthropods (LC_{50} = 0.02 µg/L to 7.6 µg/L). Marine species are often more sensitive than the freshwater species. Bacteria, algae, mollusks and amphibians are much

more tolerant of permethrin than the fish and arthropods. Care should be taken to avoid contamination of the aquatic environment. Permethrin is slightly toxic to birds and oral LD_{50} values are greater than 3600 mg/kg. Longer dietary studies showed that concentrations of up to 500 ppm in the diet had no effect on bird reproduction.

SECTION 13 DISPOSAL CONSIDERATIONS

DISPOSAL METHOD Open dumping or burning of this material or its packaging is prohibited. If spilled material cannot be disposed of by use according to instructions, an acceptable method of disposal is to incinerate in accordance with local, state and national environmental laws, rules, standards and regulations. However, because acceptable methods of disposal may vary by location and regulatory requirements may change, the appropriate agencies should be contacted prior to disposal.

EMPTY CONTAINER Non-returnable containers which held this material should be cleaned prior to disposal, by triple rinsing. Containers which held this material may be cleaned by being triple rinsed, and recycled, with rinsate being incinerated. Do not cut or weld metal containers. Vapors that form may create an explosion hazard.

SECTION 14 TRANSPORT INFORMATION

U.S. DOT (Department of Transportation)

Reportable Quantity (RQ)	None
U.S. Surface Freight Class	Insecticides, NOI, other than Poison, NMFC item 102120.
For highway and railroad shipment in the USA	Insecticides, NOI, other than Poison; this product is not regulated for transport in the US when shipped via highway or railroad in non-bulk packages. Describe using 'U.S. Surface Freight Class' above which applies in all cases.
For water and air shipments, and shipments in bulk packages	Flammable Liquids, n.o.s. (contains hydrocarbon solvent), 3, III, UN1993, NAERG Guide 128
MARPOL Designation	#1 Severe Marine Pollutant (permethrin 39.1%)

SECTION 15 REGULATORY INFORMATION

SARA Title III (Superfund Amendments and Reauthorization Act)

Section 302 Extremely Hazardous Substances (40CFR 355) Not listed

Section 302.4 Reportable Quantity (RQ) (40CFR 355) None

Section 311 Hazard Categories (40 CFR 370) Immediate, Delayed, Fire

Section 312 Threshold Planning Quantity (40 CFR 370) The threshold planning quantity (TPQ) for this product, if treated as a mixture, is 10,000 lb. This product contains the following ingredients with a TPQ of less than 10,000 lb.: None

Section 313 (40 CFR 372) This product contains the following ingredients subject to Section 313 reporting requirements: (permethrin) (1,2,4-trimethylbenzene) (hydrocarbon solvent) (ethylbenzene)

CERCLA Reportable Quantity (RQ) (40 CFR Table 302.4) Not listed

SECTION 16 OTHER INFORMATION

NFPA Hazard Ratings

Health	1
Flammability	2
Instability	0

THIS INFORMATION IN THIS MSDS IS BASED ON DATA AVAILABLE AS OF THE REVISION DATE GIVEN HEREIN, AND BELIEVED TO BE CORRECT. CONTACT UNITED PHOSPHORUS, INC. TO CONFIRM IF YOU HAVE THE MOST CURRENT MSDS. JUDGMENTS AS TO THE SUITABILITY OF THE INFORMATION HEREIN FOR THE INDIVIDUAL'S OWN USE OR PURPOSES IS NECESSARILY THE INDIVIDUAL'S OWN RESPONSIBILITY. ALTHOUGH REASONABLE CARE HAS BEEN TAKEN IN THE PREPARATION OF SUCH INFORMATION, UNITED PHOSPHORUS, INC. EXTENDS NO WARRANTIES, MAKES NO REPRESENTATIONS, AND ASSUMES NO RESPONSIBILITY AS TO THE ACCURACY OR SUITABILITY OF SUCH INFORMATION FOR APPLICATION TO THE INDIVIDUAL'S PURPOSES OR THE CONSEQUENCES OF ITS USE.

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This MSDS 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.

MSDS Status:
Revision 3, 10/12/04 replaces Version 2, 10/7/02. Reason for revision: updated Section 4: First Aid section; updated company contact information.