

MATERIAL SAFETY DATA SHEET

Product Name: **TENGARD® SFR** *One-Shot Termiticide*

This product has been prepared to meet the requirements as defined by OSHA Hazard Comm. Std., 29 CFR 1910.1200: the EO Directive, 91/155/EEC and other regulatory requirements. The information contained herein is for the concentrate as packaged, unless otherwise needed

SECTION 1 Company and Product Identification

United Phosphorus Inc.

423 Riverview Plaza
Trenton, NJ 08611

Active Ingredient: Permethrin
Chemical Family: Pyrethroid Insecticide
Formula: $C_{21}H_{20}Cl_2O_3$ (permethrin)

**FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call
CHEMTREC 1-800-424-9300**

SECTION 2 Hazard Summary

Physical Hazards: None

Health Hazards: 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.

Thermal decomposition and burning may form toxic by-products. For extensive exposure to fire, wear protective equipment.

Environmental Hazards: Highly toxic to fish and aquatic organisms.

Read the entire MSDS for a more thorough evaluation of the hazards.

SECTION 3 Composition/Ingredients Information

Ingredients	CAS#	EU Class	Wt. %	OSHA PEL
Active ingredient:				
Permethrin	52645-53-1	R22	39.1	None
Hydrocarbon Solvent	8052-41-3	None	26.0	100 ppm
Triacetin	102-76-1	None	25.9	None
Surfactant Blend	None	None	(<10.0)	None

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

SECTION 4 Fire Fighting and Explosion Hazard

Flash Point: 44 C (111 F)

Auto ignition Temperature: No data

Flammable Limits (STP): Not applicable

Extinguishing Media: Foam CO₂ or dry chemical. Soft stream water fog only if necessary. Contain all runoff.

Special Fire Fighting Protective Equipment: Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe smoke, gases or vapor generated.

Unusual Fire and Explosion Hazards: None known.

Degree of Fire/Explosion Hazard: Moderately combustible. When heated above the flash point, this material releases vapors which, when mixed with air, can burn or be explosive.

Hazardous Decomposition Products: Chlorine, hydrogen chloride, carbon dioxide, carbon monoxide, and aldehydes.

SECTION 5 Reactivity Information

Stability: Stable

Incompatibility: Excessive heat and fire.

Hazardous polymerization: Will not occur.

SECTION 6 Health Hazard Assessment (Toxicological Information)

Acute Effects from Overexposure

General: Tengard SFR has low oral, dermal and inhalation toxicity. It is minimally irritating to the eyes and slightly irritating to the skin.

Ingestion: Vomiting after ingestion of this product may cause aspiration of hydrocarbon solvents into the lungs that may result in fatal pulmonary edema.

Skin contact: 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 Tengard SFR administered to laboratory animals have produced central nervous system effects with symptoms that include hypersensitivity to touch and sound, tremors, and chronic convulsions.

Inhalation: Overexposure to animals via inhalation has also produced symptoms such as squinting eyes, irregular and rattling breathing and ataxis. Inhalation of hydrocarbon solvent vapors may cause dizziness, disturbances in vision drowsiness, respiratory irritation, and eye, skin and mucous membrane irritation.

Chronic Effects from Overexposure

No data available for Tengard SFR. 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 mutagenicity testing with permethrin. Chronic exposure to hydrocarbon solvents may cause headaches, dizziness, loss of sensations or feelings, and liver and kidney damage.

Carcinogenicity:	IARC: No	NTP: No	Other (OSHA): No
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SECTION 7 Health Hazard Assessment

First Aid Procedures: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 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 Medical Doctor: Tengard SFR Insecticide has low oral, dermal and inhalation toxicity. It is minimally irritating to the eyes and slightly irritating to the skin. The low oral toxicity of the product compared to the risk of pneumonitis from aspiration of hydrocarbon solvents suggests vomiting should not be induced. Consideration should be given to gastric lavage with an endotracheal tube in place. Activated charcoal and cathartic are recommended and nervous stimulation should be controlled with a sedative, e.g. barbiturates. Reversible skin sensations (paresthesia) may occur and ordinary skin salves have been found useful in reducing discomfort. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

SECTION 8 Physical Data

<u>Appearance and Odor:</u>	Amber liquid, faint mild petroleum
<u>Melting Point:</u>	No data
<u>Vapor Pressure (mm Hg at 20 C):</u>	No data
<u>Vapor Density (air = 1):</u>	No data
<u>Solubility in Water:</u>	Emulsifies
<u>pH:</u>	4.8 – 5.0 @ 20 C (6% in water)
<u>Specific Gravity:</u>	1.039 @ 20 C (water = 1)
<u>% Volatile by Volume:</u>	
<u>Molecular Weight:</u>	391.3 (permethrin)
<u>Weight per Volume:</u>	8.65 lb./gal (1039 g/L)

SECTION 9 Spill or Leak Procedures

ACCIDENTAL RELEASE MEASURES

Isolate and post spill area. Wear protective clothing and personal protective equipment as prescribed in Section 8 "Special Protective Information". Keep unprotected persons and animals out of the area. Keep material out of streams and sewers. 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 content.

To clean and neutralize spill area, tools and equipment, wash with a suitable solution of caustic or 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 "Disposal Considerations".

DISPOSAL CONSIDERATIONS

Open dumping or burning of this pesticide or its packaging is prohibited. If spilled material cannot be disposed of by use according to label 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 regulatory agencies should be contacted prior to disposal.

Non-returnable containers that 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 10 Special Protection Information

Personal protective recommendations for mixing or applying this product are prescribed on the product label. Information stated below provides useful, additional guidance for individuals whose use of handling of this product is not guided by the product label.

Ventilation: Use local exhaust at all process locations where vapor or mist may be entailed. Ventilate all transport vehicles prior to unloading.

Work 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 cover barrier suit, such as a rubber rain suit. Leather items – such as shoes, belts and watchbands – that become contaminated should be removed and destroyed. Launder all work clothing before reuse (separately from household laundry).

Eye Protection: For splash, spray or mist exposure, wear chemical protective goggles or a face shield.

Respiratory Protection: For splash, spray or mist 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.

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.

Personal Hygiene: 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 11 Special Precautions and other Comments

HANDLING AND STORAGE

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 F(5 C). If crystals form, warm to room temperature 70 F (21 C) by room heating only for 24-48 hours, and shake occasionally until crystals dissolve and product appears uniform. Do not use external source of heat for warming container. Keep out of reach of children and animals. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

ENVIRONMENTAL 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. Due to its high affinity for organic matter ($K_{oc}=86,000$), 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.

Environmental Toxicology

Permethrin is highly toxic to fish ($LC_{50} = 0.5\mu\text{g/L}$ to $315\mu\text{g/L}$) and aquatic arthropods ($LC_{50} = 0.02\mu\text{g/L}$ to $7.6\mu\text{g/L}$). Marlo 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 12 Transportation 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

For air and water shipment, and also road and rail other than in the U.S.A.: Flammable Liquids, n.o.s. (contains hydrocarbon solvent), 3, III, UN1993, NAERG Guide 128

MARPOL Designation: #1 Severe Marine Pollutant (permethrin 39.1%)

TSCA (Toxic Substances Control Act):

Section 13 Regulatory Information (United States)

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 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 (39.1%)

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

COMMENTS: Australian Hazard Code: 3XE

Section 14 Other Information

The information herein is given in good faith but no warranty, expressed or implied is made.

EPA signal word: **CAUTION**

EPA Registration No.: 70506-6

EPA Establishment No.: 53883-TX-002

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