MATERIAL SAFETY DATA SHEET

Prescription Treatment® brand 2% Propoxur Bait

EMERGENCY PHONE NUMBERS:

MEDICAL: 800-225-3320 (Prosar) **TRANSPORTATION:** 800-424-9300 (Chemtrec)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Prescription Treatment® brand 2% Propoxur Bait
EPA Reg. No.: 499-518
Product Code(s): 02-0369 (4 x 4 lbs)
EPA Signal Word: CAUTION
Distributed by: Whitmire Micro-Gen Research Laboratories, Inc.
3568 Tree Court Industrial Blvd.
St. Louis MO 63122-6682

SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS

COMPOSITION INFORMATION

ACTIVE INGREDIENT (2.0%)	%	CAS NO.
Propoxur	2.0	114-26-1
OTHER INGREDIENTS* (98.0%)	**%**	**CAS NO.**

* All ingredients may not be listed. Ingredients not listed do not meet the reporting requirements of the OSHA Hazard Communication Standard (HCS) as specified in 29 CFR 1910.1200.

EXPOSURE INFORMATION

	OSHA PEL		ACGIH TLV	
MATERIAL	STEL	TWA	STEL	TWA
Propoxur	NE	0.50 mg/m^3	NE	0.50 mg/m^3

SECTION 3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION! Color: Tan; Form: Solid; Granules; Odor: Slight phenol; Carbamate Insecticide – Cholinesterase Inhibitor; May be harmful if absorbed through skin; May be harmful if swallowed.

ROUTES OF ENTRY

Primary: Inhalation **Secondary:** Skin Contact **Tertiary:** Skin Absorption

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

ACUTE EFFECTS OF EXPOSURE: Inhalation, dermal absorption or ingestion of this material may result in systemic intoxication due to inhibition of the enzyme cholinesterase. The sequence of development of systemic effects varies with the route of entry, and the onset of symptoms may be delayed an hour or more. First symptoms of poisoning may be nausea, increased salivation, lacrimation, blurred vision and constricted pupils. Other symptoms of systemic poisoning include vomiting, diarrhea, abdominal cramping, dizziness and sweating. After inhalation, respiratory symptoms like tightness of chest, wheezing and laryngeal spasms may be pronounced at first. If the poisoning is severe, then symptoms of convulsions, low blood pressure, cardiac irregularities, loss of reflexes and coma may occur. In extreme cases, death may occur due to a combination of factors such as respiratory arrest, paralysis of respiratory muscles or intense bronchoconstrictions. Complete symptomatic recovery from sublethal poisoning usually occurs within 24 hr once the source of exposure is completely removed. Animal studies have shown that this product is mildly toxic by the oral and dermal routes. It can cause mild irritation to the conjunctiva with all irritation resolving within 7 days.

CHRONIC EFFECTS OF EXPOSURE: Repeated exposure to small amounts of this material may result in unexpected cholinesterase depression causing symptoms such as malaise, weakness and anorexia that resemble other illnesses such as influenza. Exposure to the concentration that would not have produced symptoms in a person that was not previously exposed may produce severe symptoms of cholinesterase inhibition in a previously exposed person. High doses of Propoxur induced bladder cancers when fed to rats in one study. Cancer was not induced in several other feeding studies on rats and other mammals. The implications of these studies for humans are not known.

HAZARDOUS DECOMPOSTION PRODUCTS

Proposed products include: Carbon monoxide, carbon dioxide, CH_3NCO, CH_3NH_2.

CARCINOGENITITY

This product is not listed by NTP, IARC or regulated as a carcinogen by OSHA.

SECTION 4. FIRST AID MEASURES

Have the product container or label with you when calling a poison control center or doctor or going for treatment. Describe any symptoms and follow the advice given.

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. Do not give anything by mouth to an unconscious person.

Skin Contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 - 20 min. Call a poison control center or doctor for treatment advice.

Inhalation: 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.

Eye Contact: Hold eyes open and rinse slowly and gently with water for 15 - 20 min. Remove contact lenses, if present, after the first 5 min, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

Note To Physician: Product contains a cholinesterase inhibitor. If symptoms of cholinesterase inhibition are present, atropine sulfate in large therapeutic doses is antidotal. 2-PAM is also antidotal and may be administered in conjunction with atropine. **Symptoms Of Poisioning:** A sense of "tightness" in the chest, sweating, contracted pupils, stomach pains, vomiting and diarrhea.

This product contains the carbamate insecticide Propoxur, a cholinesterase inhibitor. Cholinesterase inhibition results in stimulation of the central nervous system, the parasympathetic nervous system and the somatic motor nerves. If symptoms of carbamate poisoning are present, the administration of atropine sulfate is indicated. Administer atropine sulfate in large, therapeutic doses. In mild cases, start treatment by giving 1 - 2 mg of atropine intravenously every 15 min until signs of atropinization appear (dry mouth, flushing and dilated pupils if pupils were originally pinpoint). In severe cases, start treatment by giving 2 - 4 mg intravenously every 5 - 10 min until fully atropinized. Dosages for children should be appropriately reduced. Do not use oximes such as 2-PAM unless organophosphate intoxication is also suspected. Do not give morphine. Watch for pulmonary edema which may develop in serious cases of poisoning even after 24 hr. At first sign of pulmonary edema, place patient in oxygen tent and treat symptomatically.

Medical Conditions Aggravated By Exposure: No specific medical conditions are known which may be aggravated by exposure to the active ingredient in the product; however, any disease, medication or prior exposure which reduces normal cholinesterase activity may increase susceptibility to the toxic effects of the active ingredient.

Emergency Telephone Number of Prosar: 800-225-3320 (for medical emergencies)

SECTION 5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION

Flash Point: Not Applicable

Flammable Limits in Air (% by volume):

Lower (LEL) = NA Upper (UEL) = NA

IN CASE OF FIRE

Extinguisher Media: Water, Dry Chemical

Special Fire Fighting Procedures: Keep out of smoke, cool exposed containers with water spray. Fight fire from upwind position. Use self-contained breathing equipment. Contain runoff to prevent entry into sewers or waterways. Equipment or materials involved in pesticide fires may become contaminated.

SECTION 6. ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEEDURES

Isolate area and keep unauthorized people away. Do not walk through spilled material. Avoid breathing dusts and skin contact. Wear proper protective equipment. Carefully sweep up spilled material. Place in covered container for reuse or disposal. Scrub contaminated area with detergent and bleach solution. Repeat. Rinse with water. Contaminated soil may have to be removed and disposed. Do not allow material to enter streams, sewers or other waterways or contact vegetation.

This product contains the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) listed chemical *Propoxur* which has a reportable quantity (RQ) of 100 lbs. A release of more than 5,000 lbs of this product is reportable to the National Response Center (800-424-8802).

Emergency Telephone Number of Chemtrec: 800-424-9300 (for transportation spills)

SECTION 7. HANDLING AND STORAGE

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Keep out of reach of children. **CAUTION** – Harmful if swallowed or absorbed through skin or inhaled. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Avoid breathing dust.

USER SAFETY RECOMMENDATIONS

Users Should: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing 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.

STORAGE TEMPERATURE / SHELF LIFE

30-day average not to exceed 100°F. Shelf life is time/temperature dependent. Contact Whitmire Micro-Gen for details.

SPECIAL SENSITIVITY

Heat, moisture

STORAGE

Do not puncture or incinerate! Do not contaminate water, food or feed. 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.

SECTION 8. EXPOSURE CONTROL / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye Protection: Goggles should be used when needed to prevent dust from getting into eyes.

Skin Protection Requirements: Avoid skin contact. Wear long sleeves and long pants. Wear chemical-resistant gloves, boots or shoe covers when needed to prevent dermal exposure.

Respirator Requirements: If necessary under the conditions of use, wear NIOSH-approved particulate respirator.

Additional Protective Measures: Clean water should be available for washing in case of eye or skin contamination. Educate and train employees in safe use of the product. Follow all label instructions. Launder clothing separately after use. Wash thoroughly after handling.

VENTILATION

Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Solid granules
Color: Tan
Viscosity: NA
Vapor Pressure: 9.7 x 10^6 mm Hg @ 20°C (for propoxur)
Boiling Point: NA
Solubility in Water: 0.18% (for propoxur)
Odor: Slight phenol
Bulk Density: Approx. 30 lbs/ft^3
Molecular Weight: 209.2 (propoxur)
Vapor Density: NA
Freezing/Melting Point: NA
Specific Gravity: NE

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY

Stability: This is a stable material.
Conditions to Avoid: Sustained temperatures above 100°F.
Incompatibilities: Alkaline materials, strong oxidants
Hazardous Polymerization: Will not occur

HAZARDOUS DECOMPOSITION PRODUCTS

Proposed products include: Carbon monoxide, carbon dioxide, CH_3NCO, CH_3NH_2.

Prescription Treatment® brand 2% Propoxur Bait

SECTION 11. TOXICOLOGICAL INFORMATION

ROUTES OF ENTRY

Primary: Inhalation **Secondary:** Skin Contact **Tertiary:** Skin Absorption

Only acute studies have been performed on this product as formulated. The non-acute information pertains to the active ingredient, propoxur.

ACUTE TOXICITY

Eyes: Rabbit: Mild irritation to the conjunctiva was observed with all irritation resolving within 7 days.

Skin: Acute dermal LD_{50} > 2,000 mg/kg (rabbits). Not a dermal irritant when tested on rabbits. Product is not a dermal sensitizer when tested on guinea pigs.

Ingestion: Acute oral toxicity LD_{50} > 2,012 mg/kg (male rat feeding study). Acute oral toxicity LD_{50} > 1,795 mg/kg (female rat feeding study).

Inhalation: 4 hr exposure to dust: Rat: LC_{50} > 0.850 mg/l (analytical) – 1 hr exposure to dust (extrapolated from 4 hr LC_{50}): Rat: LC_{50} > 3.4 mg/l (analytical).

SUBCHRONIC TOXICITY

In a 3 mo dermal toxicity study, rabbits were treated with propoxur at levels up to and including the limit dose (1,000 mg/kg) for 6 hr/day, 5 days/wk. There were no local or systemic effects observed at any of the levels tested. The no-observed-effect-level (NOEL) was 1,000 mg/kg. In a 13 wk oral gavage study using Rhesus monkeys, a dose of 40 mg/kg/day resulted in cholinergic symptoms lasting 5 - 15 min after administration. These symptoms included salivation, chewing, twitching and rapid respiration. A 50% depression in plasma cholinesterase occurred by 1 hr. This returned to normal by 24 hr after administration. In an inhalation study in which rats were exposed to propoxur at aerosol concentrations of 15.3, 45.3 or 139.6 mg/m^3 for 6 hr/day, 5 days/wk for a period of either 4 or 8 wks, cholinesterase inhibition occurred. In a subchronic study in dogs, propoxur was administered at dietary concentrations of 60, 600 or 1,800 ppm. Effects observed included decreased food consumption and terminal body weights, and changes in clinical chemistries and organ weights. The NOEL was 60 ppm.

CHRONIC TOXICITY

In a 1 yr study, dogs were administered propoxur at dietary concentrations of 200, 600 or 1,800 ppm. The high dose was increased to 3,600 ppm during the 41st wk and subsequently to 5,400 ppm from the 45th wk until the end of the study. Effects at the high dose included reduced body weight gain, cholinesterase inhibition, elevated plasma cholesterol levels, increased liver weights and thymus atrophy. An additional study was conducted in which the NOEL was determined to be 70 ppm on the basis of plasma cholesterol. In a 2 yr study, propoxur was administered to rats at dietary concentrations of 200, 1,000 or 5,000 ppm. Treatment with 5,000 ppm resulted in decreased food consumption, decreased body weight gain, cholinesterase inhibition, neuropathy and muscular atrophy. The NOEL was 200 ppm. Rats were exposed to propoxur at liquid aerosol concentrations of 2.2, 10.4 or 50.5 mg/m^3 for 6.3 hr/day, 5 days/wk for 2 yr. Cholinesterase inhibition occurred at concentrations of 10.4 mg/m^3 and above. The NOEL was determined to be 2.2 mg/m^3.

CARCINOGENICITY

Propoxur was investigated for carcinogenic effects in a 2 yr feeding study on mice. Dietary concentrations of 500, 2,000 or 8,000 ppm were employed in the study. An increased incidence of benign liver adenomas occurred in male mice at 2,000 ppm and greater. When rats were fed propoxur for 2 yr in a single type of diet, urinary bladder neoplasias were observed at concentrations of 1,000 ppm and above. Propoxur was not carcinogenic in other types of diets administered to rats at high doses up to and including the maximum tested concentration of 8,000 ppm. In a 2 yr inhalation study on rats, propoxur was determined to be nononcogenic at liquid aerosol concentrations up to and including the maximum tested concentration of 50.5 mg/m^3.

MUTAGENICITY

A large mutagenicity database supports the conclusion that propoxur is not genotoxic. This data base includes a special study to evaluate genotoxic potential using urinary bladder cells from propoxur-treated rats. This study clearly demonstrated that propoxur and its metabolites are nongenotoxic to urinary bladder cells.

DEVELOPMENTAL TOXICITY

In a developmental toxicity study using rats, propoxur was administered during gestation by oral gavage at doses of 3, 9 or 27 mg/kg. The NOEL for maternal toxicity was 3 mg/kg. No developmental effects were observed at any of the levels tested. In a developmental toxicity study using rabbits, propoxur was administered during gestation at oral doses of 3, 10 or 30 mg/kg. Developmental toxicity occurred at the maternally toxic level of 30 mg/kg. The NOEL for maternal and developmental toxicity was 10 mg/kg.

REPRODUCTION

In reproduction studies using rats, propoxur was administered at dietary concentrations ranging from 30 to 6,000 ppm. Reproductive effects observed at parentally toxic levels included reductions in the following parameters: gestation rates, mean number of implantation sites, litter size, pup body weights and survival rate of young. The parental and reproductive NOELs were 30 and 80 ppm respectively.

NEUROTOXICITY

Propoxur has been investigated for delayed neurotoxicity in acute and subacute studies using hens. Maximum levels tested in the acute studies were 100 and 1,000 mg/kg via intraperitoneal injection and oral gavage, respectively. Dietary concentrations up to and including 4,500 ppm were tested in a 30 day subacute feeding study. There was no indication of propoxur causing delayed neurotoxicity in any of these studies. In an acute neurotoxicity study using rats, propoxur was administered as a single oral dose at levels of 2, 10 or 25 mg/kg. The NOEL for motor and locomotor activity was 2 mg/kg for males and 10 mg/kg for females based on decreased activity in the figure eight maze. All clinical signs and neurobehavioral effects were ascribed to acute cholinergic toxicity. The NOEL for neurotoxicity was 25 mgk/kg for both sexes. In a 13 wk neurotoxicity study, propoxur was administered to rats at dietary concentrations of 500, 2,000 or 8,000 ppm. Evidence of toxicity at the mid and high dose included reduced body weight and feed consumption, body weight related effects on grip strength, foot spray and organ weights and clinical chemical findings (cholinesterase inhibition and liver enzyme induction): Primary neurobehavioral changes were not evident at any dose level. There were no micropathological findings in neural or muscle tissues. Excluding cholinergic responses, the NOEL for neurotoxicity is 8,000 ppm.

SECTION 12. ECOLOGICAL INFORMATION

This product is toxic to wildlife and aquatic invertebrates. Birds and small mammals feeding on treated bait may be killed. Do not apply directly to water. Do not apply where runoff is likely to occur. Do not contaminate water by cleaning of equipment or disposal of wastes. Apply this product only as specified on the label.

SECTION 13. DISPOSAL CONSIDERATION

Do not contaminate water, food or feed by disposal of container or waste. Dispose of container and waste in accordance with all federal, state and local regulations.

Container Disposal: Completely empty container by using the product according to the label directions. Do not reuse this container! Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned stay out of smoke. If container is partly filled, call your local solid waste agency or call 1-800-CLEANUP for disposal instructions. NEVER PLACE UNUSED PRODUCT DOWN ANY INDOOR OR OUTDOOR DRAIN OR SEWER.

Waste Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

SECTION 14. TRANSPORT INFORMATION

SHIPMENT BY GROUND WITHIN U.S. (DOT CLASSIFICATION)

Hazard Class or Division: Not Regulated

SHIPMENT BY WATER (IMDG CLASSIFICATION)

Hazard Class Division Number: Not Regulated

SHIPMENT BY AIR (IATA CLASSIFICATION)

Hazard Class Division Number: Not Regulated

SECTION 15. REGULATORY INFORMATION

CERCLA

This product contains the CERCLA listed chemical *Propoxur* which has a reportable quantity (RQ) of 100 lbs.

OSHA STATUS

This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355): No components listed

SECTION 311/312 HAZARD CATEGORIES: Immediate Health Hazard, Delayed Health Hazard

SECTION 313 TOXIC CHEMICALS: Propoxur (CAS #114-26-1) 2.0%

RCRA STATUS

When discarded in its purchased form, this product is a listed RCRA hazardous waste and should be managed as a hazardous waste. (40 CFR261.20-24) Propoxur is listed as U411.

TSCA

All components of this product are listed or excluded from listing on the US Toxic Substance Control Act (TSCA) Chemical Substance Inventory

SECTION 16. OTHER INFORMATION

NFPA 704M RATING INFORMATION

HEALTH - 2 FLAMMABILITY - 1 REACTIVITY - 1

NFPA 704M RATING INFORMATION

HEALTH - 2 FLAMMABILITY - 1 REACTIVITY - 1

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

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. **For automatic MSDS updates, register at www.wmmg.com.**

Questions concerning the safe handling of the product should be referred to the Whitmire Micro-Gen Customer Service Department at 800-777-8570.

NA - Not Applicable
NE - Not Established
PEL - Permissible Exposure Limit
TLV - Threshold Limit Value
STEL - Short Term Exposure Limit (15 min)
TWA - Time Weighted Average (8 hr)

WHITMIRE MICRO-GEN
RESEARCH LABORATORIES, INC.

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