

MATERIAL SAFETY DATA SHEET
Vet-Kem PowerBand® Flea & Tick Collar for Dogs

Manufacturer: Wellmark International
Address: 1501 E. Woodfield Rd., Suite 200-West, Schaumburg, IL 60173
Emergency Phone: 1-800-950-8385
Transportation Emergency Phone: CHEMTREC: 1-800-424-9300

1. CHEMICAL PRODUCT INFORMATION

Product Name: Vet-Kem PowerBand® Flea & Tick Collar for Dogs
Chemical Name/Synonym: Propoxur; o-isopropoxphenyl methylcarbamate and (S)-Methoprene: Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4-dodecadienoate
Chemical Family: Carbamate
Formula: C11 H15 NO3 (propoxur) / C19 H34 O3 (methoprene)
EPA Registration No.: 2724-493
RF Number: 2007

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Component (chemical, common name)</u>	<u>CAS Number</u>	<u>Weight</u>	<u>Tolerance</u>
Propoxur: 2-(1-methylethoxy)phenol methylcarbamate	114-26-1	10.00%	0.5 mg/m3 (ACGIH)
(S)-Methoprene: Isopropyl (2E,4E,7S)-11-methoxy-3,7,11- trimethyl-2,4-dodecadienoate	65733-16-6	2.10%	Not established
Inert ingredients (non-hazardous and/or trade secret)		87.9%	

3. HAZARD INFORMATION

PRECAUTIONARY STATEMENTS
DO NOT ALLOW CHILDREN TO PLAY WITH THIS COLLAR
CAUTION

DO NOT GET DUST OR COLLAR IN MOUTH. HARMFUL IF SWALLOWED OR ABSORBED THROUGH SKIN. DO NOT GET DUST IN EYES, WILL CAUSE TEMPORARY PUPILLARY CONSTRICTION. THE DUST RELEASED BY THIS COLLAR IS A CHOLINESTERASE INHIBITOR. AVOID CONTACT WITH SKIN, EYES OR CLOTHING. DO NOT OPEN PACKAGE UNTIL READY TO USE. PESTICIDAL DUST WILL FORM ON THIS COLLAR DURING STORAGE. WASH HANDS THOROUGHLY WITH SOAP AND WATER AFTER HANDLING COLLAR.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Due to product form, method of use, and use history, human intoxication has not been reported. However, Propoxur is a cholinesterase inhibitor that may produce the following symptoms: headache, nausea, vomiting, diarrhea, tightness in chest, ataxia, tearing, sweating, pin-point pupils, pulmonary edema, cyanosis, and convulsions.

PRIMARY ROUTE OF ENTRY Dermal/Eye: Yes. Oral: No. Inhalation: No.

ACUTE TOXICITY

Oral: Harmful if swallowed.

Dermal: Harmful if absorbed through the skin.

Inhalation: Harmful if dust from collar is inhaled.

OTHER TOXICOLOGICAL INFORMATION

Skin Irritation: Minimally irritating.

Eye Irritation: Mildly irritating.

Sensitizer: Not a sensitizer.

4. FIRST AID MEASURES

Eye: Hold eye open and rinse slowly and gently 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.

Skin: 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.

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have a 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.

Note to Physician: Contains an N-methyl carbamate that inhibits cholinesterase. Atropine is antidotal only if symptoms of cholinesterase inhibition are present.

5. FIRE FIGHTING MEASURES

NFPA Rating: **Health: 2** **Fire: 0** **Reactivity: 0**

Flammability Class: N/A.

Flash Point: N/A.

Explosive Limits (% of Volume): N/A.

Extinguishing Media: Water Fog, foam, CO2.

Special Protective Equipment: Firefighters should wear full protective clothing including self contained breathing apparatus.

Fire Fighting Procedures: Normal procedures. Do not allow fire fighting water to escape into waterways or sewers.

Combustion Products: Highly irritating methyl isocyanate gas (and fumes of hydrogen chloride) may form on burning.

Unusual Fire/Explosion Hazards: None known.

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken: Because of individual packaging, possibilities of a release or spill are remote. However, should one occur, place in container for proper disposal. Do not allow large quantities to enter waterways.

Absorbents: Not necessary due to product form.

Incompatibles: Strong acids, strong oxidizers.

7. HANDLING AND STORAGE

Handling: Wash hands and face thoroughly with soap and water after handling product. Do not allow children to handle collar.

Storage: Store in original unopened container away from children. Do not open protective pouch until ready to use.

8. EXPOSURE CONTROL / PERSONAL MEASURES

Exposure Limits: Propoxur = 0.5 mg/m³ (ACGIH TLV).

Ventilation: General ventilation should suffice.

Personal Protective Equipment: If prolonged exposure is anticipated, handlers should wear a NIOSH approved organic vapor/pesticide respirator, impervious gloves, goggles, and other appropriate clothing to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Plastic strips with powdery surface, faint characteristic phenolic odor.

Boiling Point: N/A.

Melting Point: 90 °C.

Vapor Pressure (mm Hg): 1.29 mPa at 20 °C.

Vapor Density (Air = 1): N/A.

Specific Gravity: 1.2 (H₂O=1).

Bulk Density: N/A.

Solubility: Slightly soluble in water (0.2% at 20 °C).

Evaporation Rate: N/A.

pH: N/A.

10. STABILITY AND REACTIVITY

Stability: Stable.

Reactivity: Non-reactive.

Incompatibility w/ Other Materials: Strong acids, strong oxidizers.

Decomposition Products: Methyl isocyanate gas can be formed on burning, toxic fumes of Cl, oxides of nitrogen.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY [Specific to Active Ingredient(s)]

Propoxur: Acute oral toxicity: LD₅₀ 69 mg/kg (male rats); 47 mg/kg (female rats).
Acute dermal toxicity: LD₅₀ > 5,0000 (rats).
Acute inhalation: LC₅₀ >0.654 mg/L (respirable dust) (rats).
Skin irritation: Non-irritating.
Eye irritation: Minimal eye irritant.
Not a dermal sensitizer.

(S)-Methoprene Technical: Acute oral toxicity: LD50 >34,000 mg/kg.
Acute dermal toxicity: LD50 >2000 mg/kg.
Acute inhalation: LC50 >5.19 mg/L.
Skin irritation: Non-irritating.
Eye irritation: Moderate eye irritant.
Not a dermal sensitizer.

SUBCHRONIC TOXICITY [Specific to Active Ingredient(s)]

Propoxur: Rabbits: In a 3 month dermal toxicity study, rabbits were treated at levels up to and including the limit dose (1000 mg/kg) for 6 hr/day, five days/week. There were no local or systemic effects observed at any of the levels tested. The NOEL was 1000 mg/kg. In a 13-week oral gavage study in Rhesus monkeys, a dose of 40 mg/kg/day resulted in cholinergic symptoms lasting 5-15 minutes after administrations. These symptoms included salivation, chewing, twitching and rapid respiration. A 50% depression in plasma cholinesterase occurred by 1 hour. This returned to normal at 24 hours 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/cubic meter of 6 hours/day, 5 days/week for a period of either 4 or 8 weeks, cholinesterase inhibition occurred.

CHRONIC TOXICITY/CARCINOGENICITY [Specific to Active Ingredient(s)]

Propoxur: In a 1-year study, dogs were administered propoxur at dietary concentrations of 200, 600, and 1800 ppm. The high dose was increased to 3600 ppm during the 41st week and subsequently to 5400 ppm from the 45th week until the end of the study. Effects at the high dose included reduction in body weight gain, cholinesterase inhibition, elevated plasma cholesterol levels, increased live weight and thymus atrophy. An additional study was conducted in which the NOEL was determined to be 70 ppm in the basis of plasma cholesterol. IN a 2-year study, propoxur was administered to rats at dietary concentrations of 200, 1000, and 5000 ppm. Treatment with 5000 ppm resulted in decreased food consumption, decreased body weight gain, cholinesterase inhibition, neuropathy and muscular atrophy. The NOEL was 200 ppm.

Propoxur was investigated for carcinogenic effects in a 2-year feeding study in mice. Dietary concentrations of 500, 2000 or 8000 ppm were employed in the study. An increased incidence of benign liver adenomas occurred in male mice at 2000 ppm or greater. When rats were fed for 2 years in a single type of diet, urinary bladder neoplasias were observed at concentrations of 1000 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 8000 ppm.

Carcinogenicity: ACGIH Group A3 NTP No IARC No OSHA No

Methoprene is not considered a carcinogen. The NOEL for non-carcinogenic effects in an 18 month mouse study was 250 ppm.

DEVELOPMENTAL/REPRODUCTIVE TOXICITY [Specific to Active Ingredient(s)]

Propoxur: In reproduction studies effects were observed at parentally toxic levels. These included lower gestation rates, mean number of implantation sites, litter size, pup body weights, and survival rate of the young. The parental and reproductive NOELs were 30 and 80 ppm, respectively.

In developmental toxicity study in rats no developmental effects were observed at any of the levels tested. The NOEL for maternal toxicity was 3 mg/kg/day. In rabbits, developmental toxicity occurred at the maternally toxic dose of 30 mg/kg. The NOEL for maternal and developmental toxicity was 10 mg/kg.

Methoprene is not a teratogen. The NOEL for maternal and embryo toxicity in rabbits was 200 mg/kg/day. The NOEL for reproductive effects in rats was 2500 ppm.

MUTAGENICITY [Specific to Active Ingredient(s)]

Propoxur: The weight of evidence suggests that Propoxur is not a mutagen.

Methoprene is not a mutagenic compound.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE [Based on (RS)-Methoprene Technical]

- Hydrolysis:** T1/2 > 4 weeks (Methoprene).
Photolysis: T1/2 < 10 hours (Methoprene).
Soil half life: ~ 10 days (Methoprene).
Water solubility: < 2 ppm (Methoprene).

ECOTOXICITY [Active Ingredients Only]

- Acute Toxicity:** **Propoxur:**
Fish: LC50 (trout): 3.7 ppm (96 hour study).
Aquatic invertebrates: Daphnia: EC50: 0.15 mg/L (48-hr).
S-Methoprene:
Fish: LC₅₀ (trout): 760 ppb, (bluegill): > 370 ppb.
Aquatic invertebrates: LC₅₀ (Daphnia): 360 ppb.

13. DISPOSAL CONSIDERATIONS

Do not reuse container or used collar. For household waste, put in trash. For large quantities, dispose of in state/EPA approved hazardous waste management facility.

14. TRANSPORT INFORMATION

- DOT49CFR Description:** Not regulated as hazardous by D.O.T.
Freight Classification: Collars, animal insect repellent, in individual retail containers in boxes: NMFC 49998 Sub 1 Class 100. In individual paper and foil laminated pouches other than individual retail containers, in boxes: NMFC 49998 Sub 2 Class 85.

15. REGULATORY INFORMATION

- CERCLA (Superfund):** Reportable Quantity (RQ): Propoxur = 100 lb.
RCRA: Not regulated in this product form. Propoxur - U411.

SARA 311/312 HAZARD CATEGORIES

- Immediate Health:** Yes.
Delayed Health: No.
Fire: No.
Sudden Pressure: No.
Reactivity: No.

The information presented herein, while not guaranteed, was prepared by technically knowledgeable personnel and to the best of our knowledge is true and accurate. It is not intended to be all inclusive and the manner and conditions of use and handling may involve other or additional considerations.