

**MATERIAL SAFETY DATA SHEET**  
**ZODIAC® SPOT ON FLEA & TICK CONTROL FOR PUPPIES, TOYS, & MINIATURES**

**Manufacturer:** Wellmark International  
**Address:** 1501 E. Woodfield Rd., Suite 200-West, Schaumburg, IL 60173  
**Emergency Phone:** 1-800-950-4783  
**Transportation Emergency Phone:** CHEMTREC: 1-800-424-9300

**1. CHEMICAL PRODUCT INFORMATION**

**Product Name:** Zodiac® Spot On Flea & Tick Control for Puppies, Toys, & Miniatures  
**Chemical Name/Synonym:** (S)-Methoprene: Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4-dodecadienoate  
**Chemical Family:** Terpenoid  
**Formula:** C<sub>19</sub> H<sub>34</sub> O<sub>3</sub>  
**EPA Registration No.:** 2724-497  
**RF Number:** 9908

**2. COMPOSITION / INFORMATION ON INGREDIENTS**

<u>Component (chemical, common name)</u>	<u>CAS Number</u>	<u>Weight</u>	<u>Tolerance</u>
(S)-Methoprene: Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4-dodecadienoate	65733-16-6	3.0%	Not Established
Permethrin	52645-53-1	45.0%	Not Established
Inert ingredients (non hazardous and/or trade secret)		52.0%	

**3. HAZARD INFORMATION**

**PRECAUTIONARY STATEMENT**  
**CAUTION: KEEP OUT OF THE REACH OF CHILDREN**  
**Hazards to Humans: Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling.**

**SYMPTOMS OF OVER EXPOSURE**  
Acute dermal or oral exposure may cause CNS effects such as headache and nausea.

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

**ACUTE TOXICITY**     **Oral:** LD<sub>50</sub> Combined >5.0 g/kg - Tox Category IV  
                              **Dermal:** LD<sub>50</sub> >5.0 g/kg – Tox Category IV

**OTHER TOXICOLOGICAL INFORMATION**

**Skin Irritation:** May cause minor skin irritation  
**Eye Irritation:** May cause minor eye irritation  
**Sensitizer:** Not a Contact Sensitizer

#### 4. FIRST AID MEASURES

**Eye:** Hold eyes 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 eyes.

**Skin:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 –20 minutes. Call poison control center or Dr. for treatment advice.

**Ingestion:** Call physician. Do not induce vomiting or give anything by mouth if person is unconscious.

**Inhalation:** Remove individual to fresh air. If breathing does not return to normal within a few minutes, get medical attention immediately. If breathing is difficult, administer oxygen.

**Note to Physician:** N/A

**Information:** Have the product container or label with you when calling a poison control center or doctor or going for treatment . May also contact 1-800-950-4783 or a poison control center for treatment advice.

#### 5. FIRE FIGHTING MEASURES

**NFPA Rating:**    **Health: 2**                      **Fire: 1**                      **Reactivity: 0**

**Flammability Class:** Combustible

**Flash Point:** 131°F

**Explosive Limits (% of Volume):** Unknown

**Extinguishing Media:** Water, CO2 dry chemicals, foam

**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 water-ways or sewers.

**Combustion Products:** Carbon dioxide and carbon monoxide

**Unusual Fire/Explosion Hazards:** Large Quantities: Vapors may travel along the ground or be moved by Ventilation and ignited by heat, pilot lights, other flames and ignition sources at locations distant from material handling point. Never use welding or cutting torch near product. Product may ignite easily.

#### 6. ACCIDENTAL RELEASE MEASURES

**Steps to be taken:** Do not allow spill to enter water ways inhabited by aquatic organisms. Soak up with absorbent material and place in a suitable container for disposal.

**Absorbents:** Clay granules, dirt, or equivalent.

**Incompatibles:** Strong oxidizing agents.

#### 7. HANDLING AND STORAGE

**Handling:** Avoid eye contact. Wash hands after handling.

**Storage:** Do not contaminate water, food, or feed by storage. Store in a dry, cool place out of the reach of children and pets.

**Exposure Limits:** Not Established

**Ventilation:** General ventilation is sufficient.

**Personal Protective Equipment:** Not needed if product is used according to label. If prolonged exposure is anticipated, wear impervious gloves and safety glasses or goggles.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance and Odor:** Light amber liquid  
**Boiling Point:** 392F  
**Melting Point:** N/A  
**Vapor Pressure (mm Hg):** N/A  
**Vapor Density (Air = 1):** >1  
**Specific Gravity:** 1.03  
**Bulk Density:** 8.612 pounds/gallon  
**Solubility:** Insoluble  
**Evaporation Rate:** N/A  
**PH:** N/A

## 10. STABILITY AND REACTIVITY

**Stability:** Stable  
**Reactivity:** Not determined  
**Incompatibility w/ Other Materials:** Avoid contact with strong oxidizing agents  
**Decomposition Products:** Not determined  
**Hazardous Polymerization:** Will not occur

## 11. TOXICOLOGICAL INFORMATION

### **CHRONIC TOXICITY [Based on (RS)-Methoprene Technical]**

Methoprene is not considered a carcinogenic compound. Permethrin is not considered a carcinogenic compound.

### **DEVELOPMENTAL/REPRODUCTIVE TOXICITY [Based on (RS)-Methoprene Technical ]**

Methoprene is not a teratogenic compound. Permethrin is not a teratogenic compound.

### **MUTAGENICITY [Based on (S)-Methoprene Technical]**

Methoprene is not a mutagenic compound. Permethrin is not a mutagenic compound.

## 12. ECOLOGICAL INFORMATION

### **ENVIRONMENTAL FATE**

	<b>(RS) Methoprene Technical</b>	<b>Permethrin</b>
<b>Hydrolysis:</b>	T1/2 > 4 weeks	~ 20 days
<b>Photolysis:</b>	T1/2 < 10 hours	~ 10 hours
<b>Soil half life:</b>	~ 10 days	~ 4 Weeks
<b>Water solubility:</b>	< 2 ppm	~ 0.04 ppm

## ECOTOXICITY

**Acute Toxicity:** This product is toxic to fish.  
**(S) Methoprene Technical:** LC50 (trout): 760ppb, (Bluegill): >370ppb;  
aquatic invertebrates: LC50 (Daphnia): 360 ppb  
**Permethrin Technical:** 1.4 to 7.9 mg/1L (trout)

## 13. DISPOSAL CONSIDERATIONS

**Disposal:** **If Empty:** Do not reuse empty applicator. Place in trash and offer for recycling if available.  
**If Partly Filled:** Call your local solid waste agency or 1-800-CLEANUP for disposal instructions.  
Never place unused product down any indoor or outdoor drain.

## 14. TRANSPORT INFORMATION

**DOT49CFR Description:** Not regulated via highway and rail.  
**Freight Classification:** Animal Insecticides N.O.I. O/T Poison.

## 15. REGULATORY INFORMATION

**CERCLA (Superfund):** Not Listed  
**RCRA:** Not Regulated

## SARA 311/312 HAZARD CATEGORIES

Sara Title, Section 313:

Cas number: 52645-53-1    Ingredient Name: Permethrin    Percent by weight: Min: 2.375% Max: 2.625%

**Immediate Health:** Yes (irritant)  
**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.*