

MATERIAL SAFETY DATA SHEET
ZODIAC® SPOT ON FLEA & TICK CONTROL FOR LARGE DOGS

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 Large Dogs
Chemical Name/Synonym: (S)-Methoprene: Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4-dodecadienoate
Chemical Family: Terpenoid
Formula: C₁₉ H₃₄ O₃
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: LD₅₀ Combined >5.0 g/kg - Tox Category IV
 Dermal: LD₅₀ >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

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