

MATERIAL SAFETY DATA SHEET
ZODIAC® FLEA & TICK SPRAY FOR DOGS, CATS,PUPPIES & KITTENS

Manufacturer: Wellmark International
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Emergency Phone: 1-800-950-4783
Transportation Emergency Phone: CHEMTREC: 1-800-424-9300

1. CHEMICAL PRODUCT INFORMATION

Product Name: Zodiac® Flea & Tick Spray Flea for Dogs, Cats, Puppies & Kittens
Chemical Name/Synonym: (S)-Methoprene; isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4-dodecadienoate, Pyrethrins; a mixture of pyrethrin I, pyrethrin II, jasmolin I, jasmolin II, cinerin I, and cinerin II, Piperonyl Butoxide; 5-[2-(2-butoxyethoxy)ethoxymethyl]-6-propyl-1,3-benzodioxole, N-octyl bicycloheptane dicarboximide; N-(2ethylhexyl)-5-norbonene-2,3-dicarboximide
Chemical Family: Terpenoid, Pyrethroid, Benzodioxole, Dicarboximide
Formula: C19 H34 O3, C21 H28 O3, C22 H28 O5, C21 H30 O3, C22 H30 O5, C20 H28 O3 and C21 H28 O5 respectively, C19 H30 O5, C17 H25 O2
EPA Registration No.: 2724-404
RF Number: 9606

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	0.27%	Not established
Pyrethrins:	8003-34-7	0.20%	5 mg/m3 (OSHA & ACGIH)
Piperonyl butoxide: 5-[2-(2-butoxyethoxy)ethoxymethyl]-6-propyl-1,3-benzodioxole	51-03-6	0.37%	Not established
N-Octyl bicycloheptene dicarboximide: N-(2ethylhexyl)-5-norbonene-2,3-dicarboximide	113-48-4	0.62%	Not established
Inert ingredients: (nonhazardous and/or trade secret)		98.54	Not established

3. HAZARD INFORMATION

PRECAUTIONARY STATEMENT
KEEP OUT OF THE REACH OF CHILDREN

Caution: Harmful if swallowed or absorbed through the skin. Avoid contact with skin, eyes, or clothing. May cause dermal sensitization(SKIN ALLERGY).

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Those associated with allergies, hay fever, i.e., itchy, runny eyes, stuffy/ runny nose, chest discomfort, possible hives.

PRIMARY ROUTE OF ENTRY **Dermal/Eye:** Yes **Oral:** Yes **Inhalation:** Yes

ACUTE TOXICITY

Oral: LD50 (rat): >34,000 mg/kg (HDT) (Based on S -Methoprene)

Dermal: LD50 (rabbit): >2,100 mg/kg (HDT)

4HR: LC50 (rat) >5.19 mg/L air (Based on (S)-Methoprene)

Inhalation: LC50 (rat) > 5 mg/l (Based on Pyrethrins)

OTHER TOXICOLOGICAL INFORMATION

Skin Irritation: Non irritating (rabbit)

Eye Irritation: Moderately irritating (rabbit)

Sensitizer: Positive (guinea pig)

4. FIRST AID MEASURES

Eye: Hold eye open and flush slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye.

Skin: Remove contaminated clothing and rinse skin immediately with water for 15 – 20 minutes.

Ingestion: Call physician or Poison Control Center. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by poison control center or doctor. Do not give anything by mouth or induce vomiting to an unconscious person.

Inhalation: Remove to fresh air.

Note to Physician: Treat symptomatically.

5. FIRE FIGHTING MEASURES

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

Flammability Class: Combustible Liquid

Flash Point: 41° C (105.8° F)

Explosive Limits (% of Volume): UEL: 3 ; LEL:12 (Based on 1-methoxy – 2 –propanol)

Extinguishing Media: Dry chemical, CO2 or Alcohol foam (water may be ineffective)

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: Incomplete combustion may produce carbon monoxide

Unusual Fire/Explosion Hazards: None known

6. ACCIDENTAL RELEASE MEASURES

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

Absorbents: Clay granules, sawdust, dirt or equivalent.

Incompatibles: Strong oxidizers

7. HANDLING AND STORAGE

Handling: Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling.

Storage: Do not contaminate water, food or food by storage. Store away from children. Do not use or store near heat or open flame.

8. EXPOSURE CONTROL / PERSONAL MEASURES

Exposure Limits: Pyrethrins = 5 mg/m³ (OSHA PEL & ACGIH TLV)

Ventilation: Use with adequate ventilation.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Pale yellow, transparent liquid,l

Boiling Point: N/A

Melting Point: N/A

Vapor Pressure (mm Hg): N/A

Vapor Density (Air = 1): N/A

Specific Gravity: .9504 @ 20°C/4°C

Bulk Density: N/A

Solubility: Miscible in water

Evaporation Rate: N/A

pH: 5.47

10. STABILITY AND REACTIVITY

Stability: Stable

Reactivity: Nonreactive

Incompatibility w/ Other Materials: Strong oxidizers

Decomposition Products: None

Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

TARGET ANIMAL SAFETY [Zodiac Power Spray for Dogs and Cats]

No adverse effects have been observed in groups of dogs and cats, when applied at 7 day intervals, at levels up to 5 times the recommended rate.

CHRONIC TOXICITY

[(RS)-Methoprene Technical] Methoprene is not considered as an oncogenic compound. The NOEL for non-carcinogenic effects in an 18 month mouse study was 250 ppm.

[Pyrethrins] In a 2-year feeding study, rats were fed pyrethrum at dietary levels of 10, 50 and 250 mg/kg/day. The highest level had no significant effect on growth or survival. Slight though definite liver damage was observed, especially at higher dosage levels. In a 90-day feeding study, dogs that were fed pyrethrins at a dietary level of 5,000 ppm showed tremors, ataxia, labored respiration and salivation during the first month of exposure.

[Piperonyl Butoxide] In rats at a dietary level of 10,000 ppm of Piperonyl Butoxide, (dosage of 650 mg/kg/day), there was a moderate reduction of weight gain, increased relative weight of the kidneys and increased relative weight of the liver. A 2-year bioassay of technical rats, lymphomas occurred at incidences that were dose related. In the male mice, adenomas of the lacrimal gland occurred at incidences that were dose related but were not significantly higher than that in the control group. Thus, the occurrence of this tumor in the male mice was not clearly related to the administration of Piperonyl Butoxide.

MUTAGENICITY

[(RS)-Methoprene Technical] Methoprene is not a mutagenic compound.

[Pyrethrins] was not found to be genotoxic and did not damage DNA in any study conducted.

[Piperonyl Butoxide] Piperonyl Butoxide is not considered to be a mutagen.

DEVELOPMENTAL/REPRODUCTIVE TOXICITY

[(RS)-Methoprene Technical] is not a teratogenic compound. The NOEL for maternal and embryotoxicity in rabbits was 200 mg/kg/day. The NOEL for reproductive effects in rats was 500 ppm.

[Pyrethrins] was not found to be genotoxic and did not damage DNA in any study conducted.

[Piperonyl Butoxide] is not considered to be a mutagen.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE [Based on (RS)-Methoprene]

Hydrolysis: T1/2 > 4 weeks

Photolysis: T1/2 < 10 hours

Soil half life: ~ 10 days

Water solubility: < 2 ppm

ECOTOXICITY [Based on (S)-Methoprene]

Acute Toxicity: fish:LC50 (trout): 760 ppb, (bluegill): > 370 ppb aquatic invertebrates:LC50 (Daphnia): 360 ppb

13. DISPOSAL CONSIDERATIONS

Do not contaminate water or food by disposal. Do not reuse empty container. Wrap and put in trash. Unused product, as a waste material, may be classified as a hazardous waste due to ignitability. Recommended disposal is by an EPA approved hazardous waste management facility.

14. TRANSPORT INFORMATION

DOT49CFR Description: N/A Via Highway & Rail. Via Air & Intl: Flammable Liquid, N.O.S. (2-propanol)
3 UN 1993 Pg. III "LTD QTY" if inner pkg. -≤ 5 LTR or 160 Fl. OZ.

Freight Classification: Animal N.O.I. O/T Poison NMFC I 102120 CL60

15. REGULATORY INFORMATION

CERCLA (Superfund): Reportable Quantity (RQ): 1 lb. of Pyrethrin Contact the National Response Center
(800)244-8802 for spills exceeding the RQ.

RCRA: Regulated due to ignitability

SARA 311/312 HAZARD CATEGORIES

Immediate Health: Yes (irritant)

Delayed Health: No

Fire: Yes

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.