



# Zodiac Spot On Flea & Tick Control for Puppies, Toys & Miniature Dogs 7-15 lbs., Zodiac Spot On Flea & Tick Control for Small Dogs 16-30 lbs., Zodiac Spot On Flea & Tick Control for Medium Dogs 31-60 lbs., Zodiac Spot On Flea & Tick Control for Large Dogs Over 60 lbs.

## Safety Data Sheet

Date of issue: 02/04/2004

Revision date: 07/26/2019

Supersedes: 10/19/2017

Version: 1.1

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : Zodiac Spot On Flea & Tick Control for Puppies, Toys & Miniature Dogs 7-15 lbs., Zodiac Spot On Flea & Tick Control for Small Dogs 16-30 lbs., Zodiac Spot On Flea & Tick Control for Medium Dogs 31-60 lbs., Zodiac Spot On Flea & Tick Control for Large Dogs Over 60 lbs.  
Synonyms : EPA Reg. No.: 2724-497,100504779, 100514523, 100504781,100504782

#### 1.2. Recommended use and restrictions on use

Recommended use : Insect growth regulator. Insecticide.  
Restrictions on use : Keep out of reach of children. Avoid contact with eyes, skin or clothing. Do not use or store near heat or open flame. Do NOT take internally.

#### 1.3. Supplier

Wellmark International  
1501 E. Woodfield Road, Suite 200W  
Schaumburg, IL 60173 - United States  
www.zodiacpet.com

#### 1.4. Emergency telephone number

Emergency number : 1-800-950-4783  
1-800-424-9300 - CHEMTREC  
1-703-527-3887 - CHEMTREC - Outside North America - Collect Calls Accepted

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Flammable liquids Category 3	Flammable liquid and vapor
Acute toxicity (oral) Category 4	Harmful if swallowed
Acute toxicity (inhalation:dust,mist) Category 4	Harmful if inhaled
Skin corrosion/irritation Category 2	Causes skin irritation
Skin sensitization, Category 1	May cause an allergic skin reaction
Specific target organ toxicity (single exposure) Category 1	Causes damage to organs
Aspiration hazard Category 1	May be fatal if swallowed and enters airways

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

Flammable liquid and vapor  
Harmful if swallowed or if inhaled  
May be fatal if swallowed and enters airways  
Causes skin irritation  
May cause an allergic skin reaction  
Causes damage to organs (Nervous system)

Precautionary statements (GHS US) :

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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Keep container tightly closed.  
Ground/Bond container and receiving equipment.  
Use explosion-proof electrical, lighting, ventilating equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Do not breathe dust/fume/gas/mist/vapors/spray.  
Wash hands, forearms and face thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Contaminated work clothing must not be allowed out of the workplace.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If swallowed: Immediately call a doctor, a POISON CENTER.  
If swallowed: Call a doctor, a POISON CENTER if you feel unwell.  
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
If inhaled: Remove person to fresh air and keep comfortable for breathing.  
If exposed: Call a poison center/doctor.  
Rinse mouth.  
Do NOT induce vomiting.  
If skin irritation or rash occurs: Get medical advice/attention.  
Take off contaminated clothing and wash it before reuse.  
In case of fire: Use dry chemical to extinguish.  
Store in a well-ventilated place. Keep cool.  
Store locked up.  
Dispose of contents/container to in accordance with local/regional/national/international regulations.

### 2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%
Permethrin	(CAS-No.) 52645-53-1	45
(s)-Methoprene Technical	(CAS-No.) 65733-16-6	3
d-Limonene	(CAS-No.) 5989-27-5	20
Non-hazardous and/or does not meet criteria for classification	(CAS-No.) N/A	Balance

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact : IF ON SKIN: Wash with plenty of soap and water. Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice and attention.

First-aid measures after ingestion : IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do not induce vomiting. Call a physician immediately. Do NOT induce vomiting unless directed to do so by medical personnel.

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### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation	: Harmful if inhaled. Permethrin effects the nervous system.
Symptoms/effects after skin contact	: Causes skin irritation. May cause an allergic reaction in individuals with a sensitivity to d-Limonene.
Symptoms/effects after ingestion	: Aspiration Hazard - may be fatal if swallowed and enters airways. Harmful if swallowed. Permethrin effects the nervous system. Risk of lung edema.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Alcohol-resistant foam. Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Avoid heavy hose streams.

### 5.2. Specific hazards arising from the chemical

Fire hazard	: Flammable liquid and vapor.
Reactivity	: Flammable liquid and vapor.

### 5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures	: Ventilate spillage area. No open flames, no sparks, and no smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.
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#### 6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: Exposure controls/personal protection.
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### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Notify authorities if product enters sewers or public waters.
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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling	: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes.
Hygiene measures	: Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Ground/bond container and receiving equipment.
Storage conditions	: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.
Incompatible materials	: Combustible materials. Strong oxidizers. Sources of ignition.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

d-Limonene (5989-27-5)		
AIHA	WEEL TWA (ppm)	30 ppm

#### 8.2. Appropriate engineering controls

- Appropriate engineering controls : Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.
- Environmental exposure controls : Avoid release to the environment.

#### 8.3. Individual protection measures/Personal protective equipment

##### Hand protection:

Protective gloves

##### Eye protection:

Safety glasses

##### Skin and body protection:

Wear suitable protective clothing

##### Respiratory protection:

In case of insufficient ventilation, use NIOSH approved respiratory protection.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Light amber liquid
Color	: amber
Odor	: Citrus
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 55 °C (131° F)
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 1.03
Bulk density	: 8.612 lbs/gal
Solubility	: Insoluble in water
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available

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Explosive properties : Not explosive  
 Oxidizing properties : Not applicable

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Flammable liquid and vapor.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

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ATE (Oral)	1000 mg/kg body weight
ATE (Dust/Mist)	3.33 mg/l/4h

#### Permethrin (52645-53-1)

LD50 oral rat	adult female LD50 • 2280 mg/kg; adult male LD50 • 3580 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	5.3 mg/l/4h

#### (s)-Methoprene Technical (65733-16-6)

LD50 oral rat	> 34000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (mg/l)	5.19 mg/l/4h

#### d-Limonene (5989-27-5)

LD50 oral rat	2000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 4.8 mg/l

GHS-US Properties	Classification
Acute toxicity (oral)	Harmful if swallowed.
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Harmful if inhaled.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Not classified
Respiratory or skin sensitization	May cause an allergic skin reaction.
Germ cells mutagen	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified

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Specific target organ toxicant (single exposure)	Causes damage to organs.
Specific target organ toxicant (repeated exposure)	Not classified
Aspiration hazard	May be fatal if swallowed and enters airways.

### Potential health effects

#### Inhalation

Acute : Harmful if inhaled. Permethrin affects nervous system. Symptoms of overexposure to permethrin include diarrhea, salivation, tremors, convulsions, hyperactivity and hypersensitivity.

#### Skin

Acute : Causes skin irritation. May cause an allergic reaction in individuals with a sensitivity to d-Limonene.

#### Eye

Acute : Under normal conditions of use, no health effects are expected.

#### Ingestion

Acute : Harmful if ingested. Permethrin affects nervous system. Symptoms of overexposure to permethrin include diarrhea, salivation, tremors, convulsions, hyperactivity and hypersensitivity. Aspiration Hazard - may be fatal if swallowed and enters airways.

**Mutagenicity** : Permethrin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests. (s)-Methoprene has been tested and found negative for mutagenicity potential.

**Carcinogenicity** : Permethrin is not classified as carcinogen by NTP, IARC and OSHA. (s)-Methoprene is not classified as a carcinogen by NTP, IARC or OSHA.

**Reproductive Effects** : Permethrin does not cause developmental or reproductive effects. (s)-Methoprene is not a reproductive toxin and does not cause birth defects.

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>Permethrin (52645-53-1)</b>	
LC50 Acute fish 1	0.00079 mg/l (Exposure time: 96h - Blue gill)
LC50 Acute fish 2	0.0022 mg/l (Exposure time: 96h - Atlantic silverside)
LC50 Acute crustacea 1	0.000019 mg/l (Exposure time: 96h - Mysid shrimp)
LC50 Acute crustacea 2	0.0001 mg/l (Hexagenia bilineuta)
NOEC Chronic fish 1	0.0003 mg/l (Fathead minnow)
NOEC Chronic fish 2	0.00083 mg/l (Sheepshead minnow)
NOEC Chronic crustacea 1	0.000039 mg/l (Daphnia magna)
NOEC Chronic crustacea 2	0.000011 mg/l (Mysid shrimp)
<b>(s)-Methoprene Technical (65733-16-6)</b>	
LC50 Acute fish 1	0.76 mg/l (Exposure time: 96h - Rainbow trout)
LC50 Acute fish 2	> 0.37 mg/l (Exposure time: 96h - Blue gill)
LC50 Acute crustacea 1	0.11 mg/l (Exposure time: 96h - Mysid shrimp)
LC50 Acute crustacea 2	0.36 mg/l (Exposure time: 48h - Daphnia magna)
NOEC Chronic fish 1	0.048 mg/l (Fathead minnow)
NOEC Chronic crustacea 1	0.014 mg/l (Mysid shrimp)
<b>d-Limonene (5989-27-5)</b>	
LC50 Acute fish 1	80 mg/l (Exposure time: na - Rainbow trout)
LC50 Acute crustacea 1	39 mg/l (Exposure time: na - Daphnia magna)

### 12.2. Persistence and degradability

<b>Permethrin (52645-53-1)</b>	
Persistence and degradability	Permethrin: not rapidly biodegradable.

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<b>(s)-Methoprene Technical (65733-16-6)</b>	
Persistence and degradability	(s)-Methoprene degrades rapidly in sunlight, both in water and on inert surfaces. The pesticide also is metabolized rapidly in soil and does not leach. Thus, it should not persist in soil or contaminate ground water.

### 12.3. Bioaccumulative potential

<b>Permethrin (52645-53-1)</b>	
Log Pow	5.95
Bioaccumulative potential	Permethrin: Bioconcentration factor (BCF) 300; Does not bioaccumulate.

### 12.4. Mobility in soil

<b>Permethrin (52645-53-1)</b>	
Mobility in soil	Permethrin: Immobile in soil
<b>(s)-Methoprene Technical (65733-16-6)</b>	
Mobility in soil	Rapidly metabolized in soil under both aerobic and anaerobic conditions (half-life 10-14 days).

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Additional information : Flammable vapors may accumulate in the container.

## SECTION 14: Transport information

	UN number	Proper Shipping Name	Transport hazard class(es)	Packing group	Environmental hazards
<b>DOT</b>	Not regulated	Not regulated	Not regulated	Not regulated	Not applicable
<b>IMDG</b>	UN1993	Flammable liquids, n.o.s. (d-Limonene, Permethrin)	3	III	Marine pollutant
<b>IATA</b>	UN1993	Flammable liquids, n.o.s. (d-Limonene, Permethrin)	3	III	Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

<b>Permethrin (52645-53-1)</b>	
Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	1 %
<b>d-Limonene (5989-27-5)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>FIFRA Labelling</b>	
EPA Registration Number	2724-497
This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.	
FIFRA Signal word	<b>Caution</b>

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FIFRA Hazards to Humans and Domestic Animals	<p>Humans: Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before use.</p> <p>Domestic Animals: DO NOT USE ON CATS!</p> <p>May be toxic and potentially fatal if applied to or ingested by cats. Accidental application to cats and/or grooming a recently treated dog may result in tremors and/or uncoordinated muscle movements. If this occurs, immediate veterinary care should be provided. Do not use on puppies less than six months of age. Consult a veterinarian before using this product on debilitated, aged, medicated, pregnant or nursing animals. Sensitivities may occur after using ANY pesticide product for pets. If signs of sensitivity occur, bathe your dog/puppy with a mild soap and rinse with large amounts of water. If signs continue, consult a veterinarian IMMEDIATELY. In the event of an emergency, contact 1-800-950-4783.</p>
FIFRA First Aid	If on Skin or Clothing: 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.
FIFRA Physical Hazard	Combustible, Do not use or store near heat or open flame

### 15.2. US State regulations

No additional information available

## SECTION 16: Other information

Date of issue : 04 February 2004  
 Revision date : 26 July 2019  
 Supersedes : 19 October 2017

Indication of changes:  
 Revised Sec. 3.

SDS US (GHS HazCom 2012) - CGP

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