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: 10/19/2017  Supersedes: 11/04/2004  Version: 1.0

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
- Acute toxicity (oral) Category 4
- Acute toxicity (inhalation:dust,mist) Category 4
- Skin corrosion/irritation Category 2
- Skin sensitization, Category 1
- Specific target organ toxicity (single exposure) Category 1
- Aspiration hazard Category 1

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

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) : GHS02 GHS07 GHS08

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/sparks/open flames/hot surfaces. - No smoking.
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

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

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients
3.1. Substances
Not applicable
3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permethrin</td>
<td>(CAS-No.) 52645-53-1</td>
<td>45</td>
</tr>
<tr>
<td>(s)-Methoprene Technical</td>
<td>(CAS-No.) 65733-16-6</td>
<td>3</td>
</tr>
<tr>
<td>d-Limonene</td>
<td>(CAS-No.) 5989-27-5</td>
<td>20</td>
</tr>
<tr>
<td>Other ingredients</td>
<td>(CAS-No.) N/A</td>
<td>Balance</td>
</tr>
</tbody>
</table>

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.
### Safety Data Sheet

#### 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

| 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.

### 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.

**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.

#### 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.

### 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. 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.
SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>d-Limonene (5989-27-5)</th>
<th>AIHA</th>
<th>WEEL TWA (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>30 ppm</td>
</tr>
</tbody>
</table>

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
### 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**


**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**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Oral LD50 (mg/kg)</th>
<th>Dermal LD50 (mg/kg)</th>
<th>Inhalation LC50 (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE</td>
<td>1000</td>
<td>&gt; 2000</td>
<td>2.65</td>
</tr>
<tr>
<td>Permethrin</td>
<td>500</td>
<td>&gt; 3000</td>
<td>&gt; 4.8</td>
</tr>
<tr>
<td>Methoprene</td>
<td>&gt; 34000</td>
<td>&gt; 5000</td>
<td>5.19</td>
</tr>
<tr>
<td>d-Limonene</td>
<td>2000</td>
<td>&gt; 5000</td>
<td>&gt; 4.8</td>
</tr>
</tbody>
</table>

**GHS-US Properties**

<table>
<thead>
<tr>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity: Oral: Harmful if swallowed. Inhalation: dust, mist: Harmful if inhaled.</td>
</tr>
</tbody>
</table>
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

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 carcinogen by NTP, IARC and 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

Permethrin (52645-53-1)

<table>
<thead>
<tr>
<th>LC50 Acute fish 1</th>
<th>0.00079 mg/l (Exposure time: 96h - Blue gill)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 Acute fish 2</td>
<td>0.0022 mg/l (Exposure time: 96h - Atlantic silverside)</td>
</tr>
<tr>
<td>LC50 Acute crustacea 1</td>
<td>0.000019 mg/l (Exposure time: 96h - Mysid shrimp)</td>
</tr>
<tr>
<td>NOEC Chronic fish 1</td>
<td>0.0003 mg/l (Fathead minnow)</td>
</tr>
<tr>
<td>NOEC Chronic fish 2</td>
<td>0.00083 mg/l (Sheepshead minnow)</td>
</tr>
<tr>
<td>NOEC Chronic crustacea 1</td>
<td>0.000039 mg/l (Daphnia magna)</td>
</tr>
<tr>
<td>NOEC Chronic crustacea 2</td>
<td>0.000011 mg/l (Mysid shrimp)</td>
</tr>
<tr>
<td>NOEC Chronic crustacea 3</td>
<td>0.0001 mg/l (Hexagenia bilineuta)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>LC50 Acute fish 1</th>
<th>0.76 mg/l (Exposure time: 96h - Rainbow trout)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 Acute fish 2</td>
<td>&gt; 0.37 mg/l (Exposure time: 96h - Blue gill)</td>
</tr>
<tr>
<td>LC50 Acute crustacea 1</td>
<td>0.11 mg/l (Exposure time: 96h - Mysid shrimp)</td>
</tr>
<tr>
<td>LC50 Acute crustacea 2</td>
<td>0.36 mg/l (Exposure time: 48h - Daphnia magna)</td>
</tr>
<tr>
<td>NOEC Chronic fish 1</td>
<td>0.048 mg/l (Fathead minnow)</td>
</tr>
<tr>
<td>NOEC Chronic crustacea 1</td>
<td>0.014 mg/l (Mysid shrimp)</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50 Acute fish 1</th>
<th>LC50 Acute crustacea 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>d-Limonene (5989-27-5)</td>
<td>80 mg/l (Exposure time: na - Rainbow trout)</td>
<td>39 mg/l (Exposure time: na - Daphnia magna)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

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

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

Permethrin (52645-53-1)

Log Pow 6.5

12.4. Mobility in soil

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

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

<table>
<thead>
<tr>
<th>UN number</th>
<th>Proper Shipping Name</th>
<th>Transport hazard class(es)</th>
<th>Packing group</th>
<th>Environmental hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
</tr>
<tr>
<td>IMDG</td>
<td>UN1993</td>
<td>FLAMMABLE LIQUID, N.O.S. (d-Limonene)</td>
<td>3</td>
<td>III</td>
</tr>
<tr>
<td>IATA</td>
<td>UN1993</td>
<td>Flammable liquid, n.o.s. (d-Limonene)</td>
<td>3</td>
<td>III</td>
</tr>
</tbody>
</table>

SECTION 15: Regulatory information

15.1. US Federal regulations

Permethrin (52645-53-1)

Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting 1 %

d-Limonene (5989-27-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

FIFRA Labelling

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**

<table>
<thead>
<tr>
<th>Caution</th>
</tr>
</thead>
<tbody>
<tr>
<td>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. Domestic Animals: DO NOT USE ON CATS! 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.</td>
</tr>
</tbody>
</table>

**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

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**SECTION 16: Other information**

<table>
<thead>
<tr>
<th>Date of issue</th>
<th>04 February 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision date</td>
<td>19 October 2017</td>
</tr>
<tr>
<td>Supersedes</td>
<td>04 November 2004</td>
</tr>
</tbody>
</table>

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SDS US (GHS HazCom 2012) - CGP

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.