1. IDENTIFICATION

Trade Name:  Flea & Tick Spray for Dogs and Cats
Product identifier:  see EPA registration number
Synonym:  XJ3, XJ4, XJ5
Brand Names:  Sergeant’s, Sentry, PetArmor
EPA Registration #:  2517-107

Manufacturer:  The Perrigo Company
515 Eastern Avenue
Allegan, MI 49010  USA
Tel: 269-673-8451
Email SDSRequest@Perrigo.com

Manufacturing Site:  Sergeant’s Pet Care Products, Inc.
10077 South 134th Street
Omaha, NE 68138 USA

Emergency phone numbers
First aid or Spill:  888-464-2986 (U.S. calls)
+1 760-476-3962 Code 333304  (International calls)
Pet emergency/
Adverse event report:  1-800-781-4738

Recommended use:  Flea and Tick Spray for Animals
Restrictions on use:  Use only as directed.

2. HAZARD(S) IDENTIFICATION

Classification:

<table>
<thead>
<tr>
<th>Physical</th>
<th>Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not hazardous</td>
<td>Not hazardous</td>
</tr>
</tbody>
</table>

Label Elements:
Not hazardous in accordance with the GHS and OSHA Hazcom 2012.

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGK 264</td>
<td>113-48-4</td>
<td>0.33%</td>
</tr>
<tr>
<td>Piperonyl Butoxide</td>
<td>51-03-6</td>
<td>0.2%</td>
</tr>
<tr>
<td>Pyrethrins</td>
<td>8003-34-7</td>
<td>0.1%</td>
</tr>
<tr>
<td>Pyriproxyfen</td>
<td>95737-68-1</td>
<td>0.005%</td>
</tr>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>&lt;5%</td>
</tr>
<tr>
<td>Propylene Glycol</td>
<td>57-55-6</td>
<td>&lt;5%</td>
</tr>
<tr>
<td>Non-Hazardous and other ingredients below the disclosure limits</td>
<td>Mixture</td>
<td>Balance</td>
</tr>
</tbody>
</table>

The exact percentage (concentration) of composition has been withheld as a trade secret.
4. FIRST-AID MEASURES

**Inhalation:** Remove person to fresh air. If irritation occurs or symptoms develop, get medical attention.

**Skin contact:** Wash with soap and water. If irritation or rash develops and persists, get medical attention. Remove and contaminated clothing and launder it before reuse.

**Eye contact:** Flush eyes with water while lifting the upper and lower lids. Remove contact lenses if present and easy to do, then continue rinsing. Get medical attention if irritation persists.

**Ingestion:** Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to a person who is unconscious or convulsing. Get medical attention if large amount is swallowed.

**Most important symptoms/effects, acute and delayed:** May cause eye and skin irritation. Ingestion may cause intestinal upset with nausea and vomiting and nervous system effects.

**Indication of immediate medical attention and special treatment, if necessary:** Immediate medical attention is not generally required.

5. FIRE-FIGHTING MEASURES

**Extinguishing media:** Use any media that is suitable for the surrounding fire.

**Specific hazards arising from the chemical:** Product is not flammable or combustible but may burn in a fire after the water has evaporated.

**Special protective equipment and precautions for fire-fighters:** Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for all fires involving chemicals. Cool fire exposed containers with water.

6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment, and emergency procedures:** Wear appropriate protective clothing and equipment as described in Section 8. Caution – slip hazard may exist.

**Environmental Precautions:** Prevent spill from entering sewers and water courses. Report releases as required by local and national authorities.

**Methods and materials for containment and cleaning up:** Contain and collect with an inert absorbent material. Place in appropriate container for disposal. Clean area thoroughly.

7. HANDLING AND STORAGE

**Precautions for safe handling:** Avoid the generation of mists. Avoid contact with eyes, skin and clothing. Rinse thoroughly with water after handling.

**Conditions for safe storage, including any incompatibilities:** Store as indicated on product packaging. Store in original container in a cool, dry area inaccessible to children and pets. **PESTICIDE STORAGE:** Keep this product in its tightly closed original container, when not in use. Store this product in a cool, dry (preferably locked) place away from heat and open flame, and in an area that is inaccessible to children and animals.
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Exposure Guideline or Guideline Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGK 264</td>
<td>None Established</td>
</tr>
<tr>
<td>Pyrethrins</td>
<td>5 mg/m³ TWA OSHA PEL and ACGIH TLV</td>
</tr>
<tr>
<td>Piperonyl Butoxide</td>
<td>None Established</td>
</tr>
<tr>
<td>Pyriproxyfen</td>
<td>None Established</td>
</tr>
<tr>
<td>Ethanol</td>
<td>1000 ppm TWA OSHA PEL</td>
</tr>
<tr>
<td></td>
<td>1000 ppm STEL ACGIH TLV</td>
</tr>
<tr>
<td></td>
<td>10 mg/m³ TWA AHIA WEEL</td>
</tr>
</tbody>
</table>

**Appropriate engineering controls:** Use with adequate general or local exhaust ventilation to minimize exposures levels.

**Individual protection measures:**

**Respiratory protection:** None needed under normal use conditions. If exposure levels are excessive and irritation is experienced, a NIOSH approved organic vapor/particulate respirator is recommended. Selection of respiratory protection depends on the contaminant type, form and concentration. Select in accordance with OSHA 1910.134 and good Industrial Hygiene practice.

**Skin protection:** Impervious gloves recommended.

**Eye protection:** Chemical safety goggles recommended if needed to avoid eye contact and for bulk processing.

**Other:** None known.

9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance (physical state, color, etc.):** Hazy white liquid

**Odor:** Pleasant fragrance

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor threshold</td>
<td>Not determined</td>
</tr>
<tr>
<td>pH</td>
<td>6.25-6.75</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not determined</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt;200°F (93.3°C)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Same as water</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>VOC</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flammable limits: LEL</td>
<td>None</td>
</tr>
<tr>
<td>UEL</td>
<td>None</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Same as water</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Same as water</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.995-1.005</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Not determined</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

**Reactivity:** Not reactive under normal conditions of use.

**Chemical stability:** Stable.

**Possibility of hazardous reactions:** None known.

**Conditions to avoid:** None known.

**Incompatible materials:** Avoid oxidizing agents.

**Hazardous decomposition products:** Thermal decomposition may yield carbon and nitrogen oxides.
11. TOXICOLOGICAL INFORMATION

Acute effects of exposure:
Inhalation: Inhalation of mists may cause minor irritation of the mucous membranes and upper respiratory tract.
Ingestion: Swallowing may cause gastrointestinal distress with nausea and diarrhea and nervous system effects such as dizziness, drowsiness, excitation, twitching and tremors.
Skin contact: May cause irritation on prolonged contact.
Eye contact: Contact may cause irritation with redness and tearing.
Chronic Effects: None known.
Sensitization: Some individuals may be sensitive to pyrethrins although they are not classified as skin sensitizers.
Germ Cell Mutagenicity: Components are not germ cell mutagens.
Reproductive Toxicity: Ingredients are not reproductive toxins. Ethanol is known to cause developmental toxicity when intentionally ingested during pregnancy.
Carcinogenicity: None of the components are listed as carcinogens or suspected carcinogens by IARC, NTP, ACGIH or OSHA. Ingestion of alcoholic beverages is known to cause cancer in humans (IARC group 1). This is not relevant to this product.

Acute Toxicity Values:
MGK 264: LD50 oral rat 2800 mg/kg, LD50 dermal rat 470 mg/kg.
Pyrethrins: LD50 oral rat 1030 mg/kg; LD50 dermal rat 2000 mg/kg
Piperonyl Butoxide: LD50 oral rat 4570 mg/kg, LD50 dermal rat >2000 mg/kg.
Pyriproxyfen: LD50 oral rat >5000 mg/kg
Ethanol: LD50 oral rat 7060 mg/kg; LC50 inhalation rat 20000 ppm/10 hr.
Propylene Glycol: LD50 oral rat 21-33.7 g/kg; LD50 dermal rabbit 20.8 g/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity values: This product is classified as toxic to aquatic organisms with long lasting effects.
Pyrethrins: LC50 daphnia magna 0.01 mg/L/48 hr; LC50 rainbow trout 0.0051 mg/L/96 hr.
Piperonyl Butoxide: LC50 daphnia magna 0.51 mg/L/48 hr; LC50 rainbow trout 1.9 mg/L/96 hr.
MGK 264: EC50 daphnia carinata sensu lato 0.08 mg/L/48 hr.
Pyriproxyfen: LC50 daphnia carinata sensu lato 0.08 mg/L/48 hr.

Persistence and degradability: Pyrethrins have low persistence in the environment. MGK 264 is not readily biodegradable.
Bioaccumulative potential: An estimated BCF of 130 for MGK 264 suggests the potential for bioconcentration in aquatic organisms is high.
Mobility in soil: No data is available.
Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, state and federal regulations. Nonrefillable container. Do not reuse or refill this container. If Empty: Place in trash or offer for recycling if available. If Partly Filled: Call your local solid waste for disposal instructions. Never place unused product down any indoor or outdoor drain.
14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>DOT UN Number</th>
<th>Proper shipping name</th>
<th>Hazard Class</th>
<th>Packing Group</th>
<th>Environmental Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Not Regulated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>Not Regulated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UN3082</td>
<td>Environmentally Hazardous Substance, liquid, n.o.s. (Pyrethrins)</td>
<td>9</td>
<td>III</td>
<td>Marine Pollutant</td>
</tr>
</tbody>
</table>

Note: This product is classified as a Marine Pollutant (Environmentally Hazardous Substance) in accordance with the IMDG Code and the UN Model Regulations. However, it is packaged in either single packages or inner packagings in combination packages containing net quantities of less than 5 kg/5 L (IMDG Code 2.10.2.7; ICAO Special Instruction A197, 49CFR 171.4(c)(2)). Shipment may be regulated if contents are removed from inner packaging and combined into containers exceeding 5 L or 5 kg.

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known.

15. REGULATORY INFORMATION

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 Labeling: CAUTION
Harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing vapors. 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 reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contamination of food and foodstuffs.

Safety, health, and environmental regulations specific for the product in question.

CERCLA: Pyrethrins have an RQ of 1 lb. Many states have more stringent release reporting requirements. Report spills as required under federal, state and local regulations.

SARA Hazard Category (311/312): Not Hazardous

EPA SARA 313: This product contains the following chemicals regulated under SARA Title III, section 313: Piperonyl butoxide 0.2%

EPA TSCA Inventory: All components are listed on the TSCA inventory.

16. OTHER INFORMATION

NFPA Rating: Health = 1  Flammability = 0  Instability = 0
HMIS Rating: Health = 1  Flammability = 0  Physical Hazard = 0

SDS Revision History: New SDS

Date of Preparation: December 16, 2016

Disclaimer: This SDS has been prepared for occupational exposure. Consumers: Refer to the package insert or product label for appropriate consumer-specific information about this product when used according to manufacturer’s directions. Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy of the information contained therein, and assume no responsibility regarding the suitability of this information for the user’s intended purposes or for the consequence of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).