1. IDENTIFICATION

**Trade Name:** Fipronil Flea and Tick Spray for Dogs & Cats  
**Product identifier:** see EPA registration number  
**Synonym:** JK3, JK4  
**Brand Names:** Sentry, Sergeant’s, PetArmor  
**EPA Registration #:** 87093-1-2517

**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 treatment for dogs and cats  
**Restrictions on use:** Use only as directed.

2. HAZARD(S) IDENTIFICATION

**Classification:**

<table>
<thead>
<tr>
<th>Physical</th>
<th>Health</th>
</tr>
</thead>
</table>
| Flammable Aerosol Category 1  
Gas Under Pressure: Compressed Gas | Eye Irritation Category 2A  
Carcinogen Category 2  
Specific Target Organ Toxicity Category 3 (narcotic effects) |

**Label Elements:**

*Danger!

**Hazard statement(s)**

- Extremely Flammable aerosol
- Contains gas under pressure; may explode if heated.
- Causes serious eye irritation.
- Suspected of causing cancer.
- May cause drowsiness or dizziness.

**Precautionary statement(s)**

- Avoid breathing vapors or mists.
- Use only outdoors or in a well-ventilated area.
- Wash hands thoroughly after handling.
- Wear eye protection.
- 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 attention.
Precautionary statement(s)
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat, sparks, open flames and hot surfaces. No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.

IF inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell.
IF exposed or concerned: Get medical advice.
In case of fire: Use water spray, carbon dioxide or alcohol-resistant foam to extinguish.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store in a well-ventilated place.
Store locked up.
Dispose in accordance with local and national regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fipronil</td>
<td>120068-37-3</td>
<td>0.29%</td>
</tr>
<tr>
<td>Diethylene Glycol Monoethyl Ether (DEGEE)</td>
<td>111-90-0</td>
<td>5-10%</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>67-63-0</td>
<td>Proprietary</td>
</tr>
<tr>
<td>Butylated Hydroxyanisole</td>
<td>25013-16-5</td>
<td>&lt;0.5%</td>
</tr>
<tr>
<td>Air (Propellant)</td>
<td>Mixture</td>
<td>Proprietary</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 hands with soap and water after handling. If irritation develops and persists or symptoms of exposure develop, get medical attention.

**Eye contact:** Immediately flush eyes with water for 15 minutes while lifting the upper and lower lids. 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.

**Most important symptoms/effects, acute and delayed:** Causes eye irritation. May cause skin and respiratory irritation. Inhalation of vapors may cause respiratory irritation and dizziness and drowsiness.
Ingestion, skin absorption or inhalation may cause sweating, nausea, vomiting, headache, abdominal pain, dizziness, agitation, weakness, and tonic-clonic seizures. Contains butylated hydroxyanisole which is suspected to cause cancer.

**Indication of immediate medical attention and special treatment, if necessary:** Medical attention is recommended for ingestion.

5. FIRE-FIGHTING MEASURES

**Extinguishing media:** Use water spray or fog, CO2, dry chemical or alcohol-resistant foam.

**Specific hazards arising from the chemical:** Extremely flammable aerosol. Pressurized container may explode if heated. Vapors are heavier than air and can flow to remote ignition sources and flash back. Vapors may be explosive in confined areas. Vapors will collect in low areas. Vapors may be ignited by static sparks. Flames may be invisible in daylight.
**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment, and emergency procedures:** Wear appropriate protective clothing and equipment as described in Section 8. Eliminate all ignition sources and ventilate the area with explosion-proof equipment.

**Environmental Precautions:** This product is very toxic to aquatic life. Prevent spill from entering sewers and watercourses. Report releases as required by local and national authorities.

**Methods and materials for containment and cleaning up:** Move leaking container to a well-ventilated area if safe to do so. Absorb released liquid with an inert material. Collect into a suitable container for disposal. Clean area thoroughly.

**7. HANDLING AND STORAGE**

**Precautions for safe handling:** Avoid contact with eyes, skin and clothing. Wash thoroughly with soap and water after handling. Do not eat, drink or smoke when handling this material. Avoid breathing vapors or mists. Use only with adequate ventilation. Remove contaminated clothing and launder before re-use. Keep product away from heat, sparks and flames. Do not smoke while using. Do not leave the can in direct sunlight. Do not puncture or incinerate container, even when empty.

**Conditions for safe storage, including any incompatibilities:** Store as indicated on product packaging. Do not expose to temperatures above 120°F / 50°C. Protect containers from physical damage. Store in a cool area. Keep away from excessive heat and open flames. Store out of direct sunlight. Store away from oxidizers. Level 3 Aerosol (NFPA 30B).

**PESTICIDE STORAGE:** Store in original container. Keep away from fire, sparks and heated surfaces. Store in a cool, dry place inaccessible to children and pets.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure guidelines:**

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Exposure Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fipronil</td>
<td>Perrigo OEB4 (1 ug/m3) TWA</td>
</tr>
<tr>
<td>Diethylene Glycol Monoethyl Ether</td>
<td>25 ppm TWA AIHA WEEL</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>400 ppm TWA OSHA PEL</td>
</tr>
<tr>
<td></td>
<td>200 ppm TWA, 400 ppm STEL ACGIH TLV</td>
</tr>
<tr>
<td>Butylated Hydroxyanisole</td>
<td>None Established</td>
</tr>
</tbody>
</table>

**Appropriate engineering controls:** Use with adequate general or local exhaust ventilation to minimize exposure levels. Use explosion-proof equipment where required.

**Individual protection measures:**

**Respiratory protection:** None needed under normal use conditions. If exposure limits are exceeded, a NIOSH approved organic vapor/pesticide 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:** Rubber gloves are required for product application.

**Eye protection:** Chemical safety goggles recommended for bulk processing and if eye contact is possible.

**Other:** None known.
9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance (physical state, color, etc.):** Clear, colorless liquid

**Odor:** Alcohol

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor threshold</td>
<td>200 ppm (isopropanol)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not determined</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>179.6 °F (82 °C) (isopropanol)</td>
</tr>
<tr>
<td>Flash point</td>
<td>11.7°C / 53°F</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammable limits: LEL</td>
<td>1.2% (DEGEE)</td>
</tr>
<tr>
<td>UEL</td>
<td>23.5% (DEGEE)</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>45.4 mmHg @ 25°C (isopropanol)</td>
</tr>
<tr>
<td>Vapor density</td>
<td>&gt;1 (air=1)</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.78-0.821</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Soluble in water</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 available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

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

**Chemical stability:** Stable.

**Possibility of hazardous reactions:** Reaction with strong oxidizers will generate heat and cause fire.

**Conditions to avoid:** Avoid heat, sparks, flames, and all other sources of ignition. Pressurized container – protect from sunlight and heat.

**Incompatible materials:** Avoid oxidizing agents, acids and bases.

**Hazardous decomposition products:** Thermal decomposition may yield carbon and sulfur oxides and chlorine and fluoride compounds.

11. TOXICOLOGICAL INFORMATION

**Acute effects of exposure:**

**Inhalation:** Inhalation of vapors may cause irritation of the mucous membranes and upper respiratory tract and central nervous system effects such as dizziness, drowsiness and headache and effects similar to ingestion.

**Ingestion:** Swallowing may cause may cause drowsiness, dizziness, sweating, nausea, vomiting, headache, abdominal pain, dizziness, agitation, weakness, and tonic-clonic seizures.

**Skin contact:** May cause irritation and effects similar to ingestion. Fipronil is absorbed through the skin.

**Eye contact:** Contact may cause irritation with redness, pain and tearing.

**Chronic Effects:** Prolonged or repeated exposure may cause neurotoxicity and effects on the thyroid and liver.

**Sensitization:** Components are not skin sensitizers. Fipronil was not sensitizing when tested in guinea pigs.

**Germ Cell Mutagenicity:** Components are not germ cell mutagens. Fipronil was not genotoxic either in vitro or in vivo assays conducted to investigate gene mutations, DNA damage, and chromosomal aberrations. It was negative in Salmonella (Ames test), Chinese hamster V79 cells (HGPRT Assay), human lymphocytes (in vitro cytogenetics assay), or mouse micronuclei (bone marrow micronucleus assay).

**Reproductive Toxicity:** Ingredients are not reproductive toxins. The developmental toxicity NOELs in the rat and rabbit were 20 mg/kg/day (highest dose tested; HDT) and 1 mg/kg/day (HDT), respectively. Maternal toxicity was observed in the rat at the HDT as evidenced by decreased body weight gain and food efficiency. In the rabbit, the maternal toxicity NOAEL was less than 0.1 mg/kg/day, based on reduced body weight gain and food efficiency at all dose levels tested.

**Carcinogenicity:** Butylated hydroxyanisole is classified by IARC as a group 2B carcinogen and by NTP as reasonably anticipated to be a carcinogen. None of the other components are listed as carcinogens or suspected carcinogens by IARC, NTP, ACGIH or OSHA. Fipronil cause only species-specific tumours in studies with rats and mice.
Acute Toxicity Values: Acute toxicity estimate (ATE) calculated: Oral >5000 mg/kg; Dermal >2000 mg/kg;
Inhalation: >20 mg/L/4 hr
Fipronil: LD50 oral rat 97 mg/kg; LD50 dermal rabbit 354 mg/kg; LC50 rat 0.39-0.682 mg/L/4 hr
Diethylene Glycol Monoethyl Ether: LD50 oral rat 6031 mg/kg; LD50 dermal rabbit 9143 mg/kg
Isopropanol: LD50 oral rat 5045 mg/kg; LD50 dermal rabbit 12,800 mg/kg.

12. ECOLOGICAL INFORMATION

This product is very toxic to aquatic life with long lasting effects. Avoid release to the environment.
Ecotoxicity values: Isopropanol: LC50 fathead minnows (Pimephales promelas), 230 mg/L/96 hr; EC50 water flea (Daphnia magna), immobilization: 7,550-13,299 mg/L/48 hr; EC50 alga Scenedesmus sp., Growth rate inhibition: >1,000 mg / 72 hr
Fipronil: LC50 lepomis macrochirus 0.085 mg/L/96 hr; NOEC CyprinodonVariegatus 0.0029 mg/L/35 d. EC50 Chironomus dilutus 0.0000325 mg/L/96 hr. NOEC Mysis bahia 0.0000077 mg/L/28 d.
Classified as Acute Aquatic Toxicity Category 1 (M=1000), Chronic Aquatic Toxicity Category 1 (M=10000)
Persistence and degradability: Fipronil is not readily biodegradable (47% in 28 days OECD 301B).
Isopropanol is readily biodegradable.
Bioaccumulative potential: BCF value for lepomis macrochirus of approx 321 suggests bioconcentration of fipronil in aquatic organisms is low. Isopropanol does not bioaccumulate.
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. PESTICIDE DISPOSAL AND CONTAINER HANDLING: Do not puncture or incinerate! Non-refillable container. If empty: Place in trash or offer for recycling if available. If partly filled: Call your local solid waste agency for disposal instructions.

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th></th>
<th>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>DOT</td>
<td>UN1950</td>
<td>Aerosols</td>
<td>2.1</td>
<td>N/A</td>
<td>No</td>
</tr>
<tr>
<td>TDG</td>
<td>UN1950</td>
<td>Aerosols</td>
<td>2.1</td>
<td>N/A</td>
<td>No</td>
</tr>
<tr>
<td>IMDG</td>
<td>UN1950</td>
<td>Aerosols</td>
<td>2.1</td>
<td>N/A</td>
<td>Marine Pollutant</td>
</tr>
<tr>
<td>IATA</td>
<td>UN1950</td>
<td>Aerosols</td>
<td>2.1</td>
<td>N/A</td>
<td>Yes</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), therefore the Marine Pollutant provisions do not apply.

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:
HAZARDS TO HUMANS. CAUTION. Harmful if absorbed through skin, if swallowed or if inhaled. Causes moderate eye irritation. Avoid breathing spray mist. 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. Persons applying this product must wear rubber gloves. KEEP OUT OF REACH OF CHILDREN.

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

CERCLA: This product is not subject to release reporting. Many states have more stringent release reporting requirements. Report spills as required under federal, state and local regulations.

SARA Hazard Category (311/312): Acute Health, Chronic Health, Fire Hazard, Pressure Hazard
EPA SARA 313: This product contains the following chemicals regulated under SARA Title III, section 313:
    Diethylene glycol monoethyl ether (glycol ether) 5-10%

EPA TSCA Inventory: This product is a pesticide and not subject to TSCA.

CANADA:
Canadian CEPA: This product is a pest control product and not subject to CEPA regulations.

16. OTHER INFORMATION

NFPA Rating: Health = 2  Flammability = 3  Instability = 0
HMIS Rating: Health = 2*  Flammability = 3  Physical Hazard = 0

SDS Revision History: New SDS
Date of Preparation: July 9, 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).