1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name Dos Flea and Crawling Insect Spray

Other means of identification

Product Code(s) 7607-A

Synonyms Pyrethrins and Pyrethroids, Pyrethrum
PERMETHRIN: 3-Phenoxybenzyl (1RS)-cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate

Active Ingredient(s) Pyrethrins, Permethrin, n-Octyl bicycloheptene dicarboximide, Pyriproxyfen

Chemical Family Pyrethrins, Pyrethroid Pesticide

Recommended use of the chemical and restrictions on use

Recommended Use: Insecticide

Restrictions on Use: Use as recommended by the label

Manufacturer Address

FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104
(215) 299-6000 (General Information)
msdsinfo@fmc.com (E-Mail General Information)

Emergency telephone number

For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)

Medical Emergencies:
1 800 / 331-3148 (PROSAR - U.S.A. & Canada)
1 651 / 632-6793 (PROSAR - All Other Countries - Collect)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

| Acute toxicity - Inhalation (Dusts/Mists) | Category 4 |
| Specific target organ toxicity (single exposure) | Category 2 |
| Specific target organ toxicity (repeated exposure) | Category 2 |
| Aerosols | Category 3 |
GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Warning

Hazard Statements
H332 - Harmful if inhaled
H371 - May cause damage to organs
H373 - May cause damage to organs through prolonged or repeated exposure

Physical Hazards
H229 - Pressurized container: May burst if heated

Precautionary Statements - Prevention
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking
P211 - Do not spray on an open flame or other ignition source
P251 - Do not pierce or burn, even after use

Precautionary Statements - Response
P308 + P311 - If exposed or concerned: Call a POISON CENTER or doctor
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P312 - Call a POISON CENTER or doctor if you feel unwell

Precautionary Statements - Storage
P405 - Store locked up
P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F

Precautionary Statements - Disposal
P501 - Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
No hazards not otherwise classified were identified.

Other Information
Very toxic to aquatic life with long lasting effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family
Pyrethrins, Pyrethroid Pesticide.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Octyl bicycloheptene dicarboximide</td>
<td>113-48-4</td>
<td>0.25</td>
</tr>
<tr>
<td>Permethrin</td>
<td>52645-53-1</td>
<td>0.20</td>
</tr>
<tr>
<td>Pyrethrins</td>
<td>8003-34-7</td>
<td>0.05</td>
</tr>
<tr>
<td>Pyriproxyfen</td>
<td>95737-68-1</td>
<td>0.02</td>
</tr>
<tr>
<td>Petroleum gases, liquefied, sweetened</td>
<td>68476-86-8</td>
<td>10-20</td>
</tr>
</tbody>
</table>

Synonyms are provided in Section 1.
4. FIRST AID MEASURES

Eye Contact
Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.

Skin Contact
Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.

Inhalation
Move to fresh air. If person is not breathing, call 911 (within the U.S. and Canada) or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

Ingestion
Clean mouth with water and afterwards drink plenty of water. Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not induce vomiting or give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed
None known.

Indication of immediate medical attention and special treatment needed, if necessary
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Foam. Carbon dioxide (CO₂). Dry chemical.

Specific Hazards Arising from the Chemical
Contents under pressure. Temperatures (>130°F) may cause bursting. Keep containers cool to avoid bursting. Contents under pressure. This aerosol is NOT classified as FLAMMABLE by the flame extension test method described in 16 CFR 1500.45.

Hazardous Combustion Products
Under fire conditions, this product may support combustion and may decompose to give off toxic gases such as carbon monoxide, carbon dioxide, and nitrogen oxides. Chlorine gas and hydrogen chloride may also be formed under fire conditions.

Explosion data
Not sensitive.

Sensitivity to Mechanical Impact
Not sensitive.

Sensitivity to Static Discharge
Not sensitive.

Protective equipment and precautions for firefighters
Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Isolate and post spill area. Remove all sources of ignition. Ventilate the area. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8. If ventilation is not possible wear full protection suit and chemical protective equipment.

Other
For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 “Product and Company Identification” above.

Environmental Precautions
See Section 12 for additional Ecological Information.

Methods for Containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Transfer damaged cartridges or cans to containers for later disposal. Clean and neutralize spill area, tools and equipment by washing with bleach water and soap. Waste must be classified and labeled prior to recycling or disposal. Dispose of waste as indicated in Section 13. Rinsate may be disposed at a waste water treatment plant.

7. HANDLING AND STORAGE
Handling

Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal. BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 130°F. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects.

Storage

Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep out of reach of children and animals. Keep/store only in original container.

Incompatible products

No information available Strong acids, Strong bases, Strong oxidizing agents.

---

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyrethrins (8003-34-7)</td>
<td>TWA: 5 mg/m³</td>
<td>TWA: 5 mg/m³</td>
<td>IDLH: 5000 mg/m³</td>
<td>Mexico: TWA 5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TWA: 5 mg/m³</td>
<td>Mexico: STEL 10 mg/m³</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering measures

Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Individual protection measures, such as personal protective equipment

Eye/Face Protection

If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

Skin and Body Protection

Wear long-sleeved shirt, long pants, socks, and shoes.

Hand Protection

Protective gloves

Respiratory Protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures

Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Remove and wash contaminated clothing before re-use. Launder work clothing separately from regular household laundry.

General information

If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Milky emulsion</td>
</tr>
<tr>
<td>Physical State</td>
<td>Aerosolized liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Creamy white</td>
</tr>
<tr>
<td>Odor</td>
<td>Solvent</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>6.6 (non-volatiles)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
</tbody>
</table>
Flash point: Not applicable

Evaporation Rate: No information available

Flammability (solid, gas): No information available

Flammability Limit in Air
  Upper flammability limit: No information available
  Lower flammability limit: No information available

Vapor pressure: No information available

Vapor density: No information available

Density: 8.22 lb/gal (non-volatiles)

Specific gravity: 0.994 @ 21.9 °C [Specific gravity measurement is for the aerosol contents less the compressed gas propellent (i.e., non-volatiles)].

Water solubility: Partially miscible in water. [Water solubility analysis is for the aerosol contents less the compressed gas propellent (i.e., non-volatiles)].

Solubility in other solvents: No information available

Partition coefficient: No information available

Autoignition temperature: No information available

Decomposition temperature: No information available

Viscosity, kinematic: No information available

Viscosity, dynamic: 5.5 cps

Explosive properties: No information available

Oxidizing properties: No information available

Molecular weight: No information available

Bulk density: No information available

**10. STABILITY AND REACTIVITY**

Reactivity: Not applicable

Chemical Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous polymerization: Hazardous polymerization does not occur.

Conditions to avoid: Heat, flames and sparks

Incompatible materials: No information available.

Hazardous Decomposition Products: Under fire conditions, this product may support combustion and may decompose to give off toxic gases such as carbon monoxide, carbon dioxide, and nitrogen oxides. Chlorine gas and hydrogen chloride may also be formed under fire conditions.

**11. TOXICOLOGICAL INFORMATION**

Product Information

LD50 Oral: > 5000 mg/kg (rat)

LD50 Dermal: > 5000 mg/kg (rabbit)

LC50 Inhalation: > 2.18 mg/L 2.18

Serious eye damage/eye irritation: Moderately irritating (rabbit).

Skin corrosion/irritation: Minimally irritating.

Sensitization: Non-sensitizer

Information on toxicological effects

Symptoms: No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure:

Chronic toxicity: Permethrin: Effects are expected to be similar to those that are seen with acute toxicity.

Mutagenicity: Permethrin: Not genotoxic in animal studies

Carcinogenicity: Permethrin: Evidence of tumors in mice but is not considered relevant to humans.

Neurological effects: Permethrin: Clinical signs of neurotoxicity include altered motor activity and FOB effects, with no signs of histopathology.

Reproductive toxicity: Permethrin: No toxicity to reproduction in animal studies.
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Revision date: 2016-05-26
Version 1.02

Developmental toxicity
Permethrin: Not teratogenic in animal studies.

STOT - single exposure
May cause damage to organs.

STOT - repeated exposure
May cause damage to organs through prolonged or repeated exposure.

Target organ effects
Permethrin: Central Nervous System

Neurological effects
Permethrin: Clinical signs of neurotoxicity include altered motor activity and FOB effects, with no signs of histopathology.

Aspiration hazard
No information available.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permethrin</td>
<td>Group 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>52645-53-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pyrethrins</td>
<td>Group 2A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8003-34-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

Ecotoxicity

Permethrin (52645-53-1)

<table>
<thead>
<tr>
<th>Active Ingredient(s)</th>
<th>Duration</th>
<th>Species</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permethrin</td>
<td>48 h EC50</td>
<td>Crustacea</td>
<td>0.001</td>
<td>mg/L</td>
</tr>
<tr>
<td></td>
<td>72 h EC50</td>
<td>Algae</td>
<td>0.0125</td>
<td>mg/L</td>
</tr>
<tr>
<td></td>
<td>96 h LC50</td>
<td>Fish</td>
<td>0.79</td>
<td>µg/L</td>
</tr>
<tr>
<td></td>
<td>21 d NOEC</td>
<td>Crustacea</td>
<td>0.039</td>
<td>µg/L</td>
</tr>
<tr>
<td></td>
<td>96 hr NOEC</td>
<td>Algae</td>
<td>0.9</td>
<td>µg/L</td>
</tr>
<tr>
<td></td>
<td>21 d NOEC</td>
<td>Fish</td>
<td>0.3</td>
<td>µg/L</td>
</tr>
</tbody>
</table>

Persistence and degradability
No data is available on the product itself.

Bioaccumulation
No information available.

Mobility
No information available.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods
Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance. Do not puncture or incinerate container.

Empty containers can be disposed of with ordinary household trash, as per label recommendations. If container is partially filled, call your local solid waste agency for disposal instructions.

Contaminated Packaging
Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions. Nonrefillable container. Do not reuse or refill this container.

14. TRANSPORT INFORMATION

DOT
The packaging type listed below may be shipped as a Limited Quantity. Each carton must be marked with the Limited Quantity label.

<table>
<thead>
<tr>
<th>UN/ID no</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TDG</td>
<td>UN1950</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UN/ID no</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>Aerosols, non-flammable</td>
</tr>
<tr>
<td>Hazard class</td>
<td>2.2</td>
</tr>
</tbody>
</table>
15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permethrin - 52645-53-1</td>
<td>52645-53-1</td>
<td>0.20</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories

- Acute health hazard: Yes
- Chronic health hazard: -
- Fire hazard: No
- Sudden release of pressure hazard: Yes
- Reactive Hazard: No

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyrethrins 8003-34-7</td>
<td>1 lb</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyrethrins 8003-34-7</td>
<td>1 lb</td>
<td>0.454 kg</td>
</tr>
</tbody>
</table>

FIFRA Information
This chemical is a pesticide product registered by the 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, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION
Causes moderate eye irritation. Harmful if swallowed. This product is toxic to fish, birds and other wildlife.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations
This product does not contain any substances regulated by state right-to-know regulations.
Dos Flea and Crawling Insect Spray

**International Inventories**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permethrin 52645-53-1</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Pyrethrins 8003-34-7</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**Mexico - Grade**

Moderate risk, Grade 2

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Carcinogen Status</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyrethrins</td>
<td></td>
<td>Mexico: TWA 5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mexico: STEL 10 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Mexico - Pollutant Release and Transfer Register - Reporting Emissions for Fabrication, Process or Use - Threshold Quantities</th>
<th>Pollutant Release and Transfer Register - Reporting Emissions - Threshold Quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Dioxide</td>
<td>100000</td>
<td>100000 kg/yr</td>
</tr>
<tr>
<td>Tetramethrin</td>
<td>100</td>
<td>100 kg/yr</td>
</tr>
<tr>
<td></td>
<td>2500 kg/yr</td>
<td></td>
</tr>
<tr>
<td>Pyrethrins</td>
<td>500</td>
<td>500 kg/yr</td>
</tr>
<tr>
<td></td>
<td>2500 kg/yr</td>
<td></td>
</tr>
</tbody>
</table>

**WHMIS Hazard Class**

B3 - Combustible liquid

**16. OTHER INFORMATION**

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical hazard</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

**Revision date:** 2016-05-26
**Reason for revision:** Initial Release

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Prepared By:

FMC Corporation

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End of Safety Data Sheet