Safety Data Sheet

Section 1: Identification

Product identifier
Product Name • Bronco® Equine Fly Spray Plus Citronella Scent
Synonyms • 100502327; 100502328; 100532239; EPA Reg. No.: 270-329
Product Description • Clear colorless liquid.

Relevant identified uses of the substance or mixture and uses advised against
Recommended use • Insecticide.
Restrictions on use • Avoid contact with skin and eyes. Keep out of reach of children and pets.

Details of the supplier of the safety data sheet
Manufacturer • Farnam Companies, Inc.
1501 E. Woodfield Road, Suite 200W
Schaumburg, IL 60173
United States
www.farnam.com

Emergency telephone number
Manufacturer • 1-800-234-2269
Manufacturer (Transportation) • 1-800-424-9300 - CHEMTREC
Manufacturer (Transportation) • 1-703-527-3887 - CHEMTREC - Outside the US collect calls accepted

Section 2: Hazard Identification

United States (US)
According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture
OSHA HCS 2012 • Skin Sensitization 1

Label elements
OSHA HCS 2012

WARNING

Hazard statements • May cause an allergic skin reaction
Precautionary statements
Prevention • Avoid breathing dust, fume, gas, mist, vapors and/or spray. Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves.

**Response**

- IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

**Storage/Disposal**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**Other hazards**

**OSHA HCS 2012**

- This product is extremely toxic to aquatic organisms, including fish and invertebrates. This product is extremely toxic to bees exposed to direct treatment on blooming crops or weeds. Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is not considered hazardous.

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### Section 3 - Composition/Information on Ingredients

#### Substances

- Material does not meet the criteria of a substance.

#### Mixtures

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Identifiers</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prallethrin</td>
<td>CAS:23031-36-9</td>
<td>0.033%</td>
</tr>
<tr>
<td>Permethrin</td>
<td>CAS:52645-53-1</td>
<td>0.1%</td>
</tr>
<tr>
<td>Piperonyl butoxide</td>
<td>CAS:51-03-6</td>
<td>0.5%</td>
</tr>
<tr>
<td>Other ingredients</td>
<td>NDA</td>
<td>Balance</td>
</tr>
</tbody>
</table>

---

### Section 4: First-Aid Measures

#### Description of first aid measures

**Inhalation**

- IF INHALED: If breathing is difficult, remove person to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms persist.

**Skin**

- IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

**Eye**

- IF IN EYES: Rinse with water for several minutes. Get medical attention if symptoms occur.

**Ingestion**

- IF SWALLOWED: Do not induce vomiting unless told to by a poison control center or doctor. Rinse mouth. Get medical attention if symptoms occur.

**Most important symptoms and effects, both acute and delayed**

- An allergic skin reaction may occur in individuals with a sensitivity to piperonyl...
butoxide. Refer to Section 11 - Toxicological Information.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician**
- Treat symptomatically and supportively.

**Section 5: Fire-Fighting Measures**

**Extinguishing media**

**Suitable Extinguishing Media**
- In case of fire use media as appropriate for surrounding fire.

**Unsuitable Extinguishing Media**
- None known.

**Special hazards arising from the substance or mixture**

**Unusual Fire and Explosion Hazards**
- None known.

**Hazardous Combustion Products**
- None known.

**Advice for firefighters**
- Wear positive pressure self-contained breathing apparatus (SCBA).

**Section 6 - Accidental Release Measures**

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions**
- Use appropriate Personal Protective Equipment (PPE). Ventilate enclosed areas. Wash thoroughly with soap and water after handling.

**Emergency Procedures**
- Ventilate closed spaces before entering. Avoid release into the environment.

**Environmental precautions**
- Prevent entry into waterways, sewers, basements or confined areas.

**Methods and material for containment and cleaning up**

**Containment/Clean-up Measures**
- Stop leak if you can do it without risk.
  - SMALL SPILLS: Take up with sand or other non-combustible absorbent material and place into containers for later disposal.
  - LARGE SPILLS: Dike far ahead of spill for later disposal.

**Section 7 - Handling and Storage**

**Precautions for safe handling**

**Handling**
- Use good safety and industrial hygiene practices. Avoid contact with skin or eyes.

**Conditions for safe storage, including any incompatibilities**

**Storage**
- Keep this product in its tightly closed original container, when not in use. Store in a cool, dry area that is inaccessible to children and pets. Protect from freezing or high temperatures.

**Section 8 - Exposure Controls/Personal Protection**

**Control parameters**
Exposure controls

Engineering Measures/Controls

Personal Protective Equipment

Pictograms

Respiratory

Eye/Face

Hands

Skin/Body

It is recommended for handlers to wear appropriate clothing to prevent skin contact including long sleeves, long pants, socks and shoes.

Environmental Exposure Controls

Avoid release to the environment.

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Material Description</th>
<th>Appearance/Description</th>
<th>Clear colorless liquid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Form</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
<td>Odor</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
<td>Sweet citrus.</td>
</tr>
</tbody>
</table>

General Properties

<table>
<thead>
<tr>
<th>Boiling Point</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific Gravity/Relative Density</td>
<td>≥ 1.001 @ 20 °C(68 °F) Water=1</td>
</tr>
<tr>
<td>Viscosity</td>
<td>&lt; 10 Centipoise (cPs, cP) or mPas @ 25 °C(77 °F)</td>
</tr>
<tr>
<td>Melting Point/Freezing Point</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>8.2</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Vapor Pressure

<table>
<thead>
<tr>
<th>No data available</th>
</tr>
</thead>
</table>

Evaporation Rate

<table>
<thead>
<tr>
<th>No data available</th>
</tr>
</thead>
</table>

Flammability

<table>
<thead>
<tr>
<th>Flash Point</th>
<th>&gt; 200 °C(&gt; 392 °F) TCC (Tagliabue Closed Cup)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEL</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not Flammable.</td>
</tr>
<tr>
<td>UEL</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Environmental

| Octanol/Water Partition coefficient | No data available |

Section 10: Stability and Reactivity

Reactivity

No dangerous reaction known under conditions of normal use.

Chemical stability

Stable under normal temperatures and pressures.

Possibility of hazardous reactions
- Hazardous polymerization will not occur.

**Conditions to avoid**
- No data available.

**Incompatible materials**
- No data available.

**Hazardous decomposition products**
- No data available.

### Section 11 - Toxicological Information

#### Information on toxicological effects

<table>
<thead>
<tr>
<th>CAS</th>
<th>Irritation: Eye-Rabbit • Essentially non-irritating; Skin-Rabbit • Essentially non-irritating</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDA</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GHS Properties</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>OSHA HCS 2012 • Acute Toxicity - Dermal - Classification criteria not met; Acute Toxicity - Inhalation - Classification criteria not met; Acute Toxicity - Oral - Classification criteria not met</td>
</tr>
<tr>
<td>Skin corrosion/Irritation</td>
<td>OSHA HCS 2012 • Classification criteria not met</td>
</tr>
<tr>
<td>Serious eye damage/Irritation</td>
<td>OSHA HCS 2012 • Classification criteria not met</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>OSHA HCS 2012 • Skin Sensitizer 1</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>OSHA HCS 2012 • Classification criteria not met</td>
</tr>
<tr>
<td>Aspiration Hazard</td>
<td>OSHA HCS 2012 • Classification criteria not met</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>OSHA HCS 2012 • Classification criteria not met</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td>OSHA HCS 2012 • Classification criteria not met</td>
</tr>
<tr>
<td>Toxicity for Reproduction</td>
<td>OSHA HCS 2012 • Classification criteria not met</td>
</tr>
<tr>
<td>STOT-SE</td>
<td>OSHA HCS 2012 • Classification criteria not met</td>
</tr>
<tr>
<td>STOT-RE</td>
<td>OSHA HCS 2012 • Classification criteria not met</td>
</tr>
</tbody>
</table>

**Route(s) of entry/exposure**
- Inhalation, Ingestion, Eyes, and Skin

**Potential Health Effects**

**Inhalation**
- Acute (Immediate)
  - Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)
  - No data available.

**Skin**
- Acute (Immediate)
  - May cause an allergic reaction in individuals with a sensitivity to piperonyl butoxide.
- Chronic (Delayed)
  - No data available

**Eye**
- Acute (Immediate)
  - Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)
  - No data available

**Ingestion**
Acute (Immediate) • Under normal conditions of use, no health effects are expected. Chronic (Delayed) • No data available.

Mutagenic Effects
• Prallethrin is not a mutagen. Permethrin was not mutagenic in a battery of in vitro and in vivo tests. Piperonyl butoxide was not mutagenic in a battery of tests.

Carcinogenic Effects • Prallethrin is not classified as carcinogen by NTP, IARC and OSHA. Permethrin is not classified as carcinogen by NTP, IARC and OSHA. Piperonyl butoxide is not classified as carcinogen by NTP, IARC and OSHA. No other components present at 0.1% or greater are listed by IARC, OSHA or NTP.

Reproductive Effects • Prallethrin is not a reproductive toxicant. Permethrin does not cause developmental or reproductive effects. Piperonyl butoxide did not produce any birth defects or adverse effects on reproductive parameters in tests with rats and rabbits.

Section 12 - Ecological Information

Toxicity

<table>
<thead>
<tr>
<th>Components</th>
<th>Aquatic Toxicity-Fish:</th>
<th>96 Hour(s) LC50</th>
<th>Rainbow Trout</th>
<th>0.012 mg/L [Acute]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prallethrin (0.033%)</td>
<td>23031-36-9</td>
<td>96 Hour(s) LC50 Blue Gill</td>
<td>0.022 mg/L [Acute]</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NOEC Rainbow Trout</td>
<td>0.003 mg/L [Chronic]</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aquatic Toxicity-Crustacea:</td>
<td>NOEC Daphnia magna 0.00065 mg/L [Chronic]</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>48 Hour(s) LC50</td>
<td>Daphnia magna 0.0062 mg/L [Acute]</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>Aquatic Toxicity-Fish:</th>
<th>96 Hour(s) LC50</th>
<th>Blue Gill</th>
<th>0.00079 mg/L [Acute]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permethrin (0.1%)</td>
<td>52645-53-1</td>
<td>96 Hour(s) LC50 Atlantic silverside</td>
<td>0.0022 mg/L [Acute]</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NOEC Fathead minnow</td>
<td>0.0003 mg/L [Chronic]</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NOEC Sheepshead minnow</td>
<td>0.00083 mg/L [Chronic]</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aquatic Toxicity-Crustacea:</td>
<td>NOEC Daphnia magna 0.000039 mg/L [Chronic]</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NOEC Mysis shrimp</td>
<td>0.000011 mg/L [Chronic]</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50 Hexagenia bilineuta</td>
<td>0.0001 mg/L [Acute]</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>96 Hour(s) LC50 Mysis shrimp</td>
<td>0.000019 mg/L [Acute]</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>Aquatic Toxicity-Fish:</th>
<th>LC50 Rainbow Trout</th>
<th>1.9 mg/L [Acute]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piperonyl butoxide (0.5%)</td>
<td>51-03-6</td>
<td>LC50 Sheepshead minnow</td>
<td>3.94 mg/L [Acute]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NOEC Fathead minnow</td>
<td>0.04 mg/L [Chronic]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aquatic Toxicity-Crustacea:</td>
<td>LC50 Gammarus fasciatus (amphipod) 0.51 mg/L [Acute]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50 Mysis shrimp</td>
<td>0.49 mg/L [Acute]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NOEC Daphnia magna</td>
<td>0.03 mg/L [Chronic]</td>
</tr>
</tbody>
</table>

Persistence and degradability • Permethrin: not rapidly biodegradable.

Bioaccumulative potential • Permethrin: Bioconcentration factor (BCF) 300; Does not bioaccumulate.

Mobility in Soil • Permethrin: Immobile in soil.

Other adverse effects Potential Environmental Effects • This product is extremely toxic to fish and aquatic invertebrates and extremely toxic to bees exposed to direct treatment or to residues on crop or weeds.
Section 13 - Disposal Considerations

Waste treatment methods

Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. Do not empty into drains.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. See product label for disposal instructions.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN 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 Applicable</td>
<td>Not Regulated</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>IMO/IMDG</td>
<td>UN3082</td>
<td>Packaging &gt; 5L: Environmentally Hazardous Substance, Liquid, n.o.s. (Permethrin)</td>
<td>9</td>
<td>III</td>
</tr>
<tr>
<td>IATA/ICAO</td>
<td>UN3082</td>
<td>Packaging &gt; 5L: Environmentally Hazardous Substance, Liquid, n.o.s. (Permethrin)</td>
<td>9</td>
<td>III</td>
</tr>
</tbody>
</table>

Special precautions for user

- None known.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant.

Other information

- IMO/IMDG: No data available
- IATA/ICAO: No data available

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications

- SARA Title III Section 313, Acute

FIFRA – Pesticide Labeling

This material 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.

Precautionary Statements

- KEEP OUT OF REACH OF CHILDREN.

Environmental Hazards

This product is extremely toxic to aquatic organisms, including fish and aquatic invertebrates. To protect the environment, do not allow pesticide to enter or runoff into storm drains, drainage ditches, gutters or surface waters. Applying this product in
A calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. This pesticide is extremely toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are foraging the treatment area.

### Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permethrin</td>
<td>52645-53-1</td>
<td>No</td>
</tr>
<tr>
<td>Prallethrin</td>
<td>23031-36-9</td>
<td>No</td>
</tr>
<tr>
<td>Piperonyl butoxide</td>
<td>51-03-6</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### United States

#### Environment

**U.S. - CERCLA/SARA - Section 313 - Emission Reporting**

- Permethrin: 52645-53-1 1.0 % de minimis concentration
- Prallethrin: 23031-36-9 Not Listed
- Piperonyl butoxide: 51-03-6 1.0 % de minimis concentration

### Section 16 - Other Information

**Revision Date**  
25/October/2017

**Last Revision Date**  
23/August/2016

**Preparation Date**  
23/August/2016

**Disclaimer/Statement of Liability**

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.

**Revision Statement**

Updated Section 1