1. IDENTIFICATION

<table>
<thead>
<tr>
<th>Product Name</th>
<th>EFFITIX® Topical Solution for Dogs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended use of the chemical and restrictions on use</td>
<td>Topical insecticide</td>
</tr>
<tr>
<td>Identified uses</td>
<td>It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For external use on dogs only.</td>
</tr>
<tr>
<td>Restrictions on Use</td>
<td>For external use on dogs only.</td>
</tr>
</tbody>
</table>

Company Identification
Virbac AH, Inc.
P.O. Box 162059
Fort Worth, Texas 76161

Customer Information Number
(800) 338-3659

Emergency Telephone Number
Chemtrec Number (800) 424-9300
Other Emergency Number: Poison Control Center: 1-800-222-1222 (human)
HOT LINE NUMBER: 1-800-345-4735 (human and pet)

Issue Date
October 21, 2015

Supersedes Date
April 24, 2012

Safety Data Sheet prepared in accordance with OSHA’s Hazard Communication Standard (29 CFR 1910.1200) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

2. HAZARD IDENTIFICATION

Hazard Classification
Acute Toxicity (Oral) - Category 4
Serious eye damage/eye irritation - Category 2A
Specific Target Organ Toxicity (Single Exposure) - Category 1
Specific Target Organ Toxicity (Repeat Exposure) - Category 1
Carcinogenicity - Category 2
Acute hazard to the aquatic environment - Category 1 (This classification not adopted by OSHA)

Label Elements
Hazard Symbols

Signal Word: Danger

Hazard Statements
Harmful if swallowed.
Causes serious eye irritation.
Causes damage to organs (central nervous system) (route of exposure: oral)
Causes damage to organs (central nervous system) through prolonged or repeated exposure.
Suspected of causing cancer. (route of exposure: oral)
Very toxic to aquatic life.
2. HAZARD IDENTIFICATION

Precautionary Statements

Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wash hands thoroughly after handling.
Do not eat, drink, or smoke while using this product.
Wear eye protection, face protection, protective clothing, and protective gloves.
Do not breathe mist, vapors or spray.
Avoid release to the environment.

Response
If swallowed: Call a poison center or doctor if you feel unwell. Rinse mouth.
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/attention.
If exposed or concerned: Call a poison center or doctor.
Get medical advice or attention if you feel unwell.
Collect spillage.

Storage
Store locked up.

Disposal
Dispose of contents/container in accordance with local regulation.

Other Hazards
See Section 15 for FIFRA label elements.

Specific Concentration Limits
The values listed below represent the percentages of ingredients of unknown toxicity.
Acute oral toxicity 0%
Acute dermal toxicity 0%
Acute inhalation toxicity 45 - 55%
Acute aquatic toxicity 45 - 55%

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms:
This product is a mixture.

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS Number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fipronil</td>
<td>120068-37-7</td>
<td>6.01%</td>
</tr>
<tr>
<td>Permethrin</td>
<td>52645-53-1</td>
<td>44.88%</td>
</tr>
<tr>
<td>Glycol ether</td>
<td>NA</td>
<td>45 - 55%</td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

Description of necessary first-aid measures

Eyes
Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if
present, after the first 5 minutes, then continue rinsing the eye. Call a poison control center or doctor for
treatment advice.
4. FIRST-AID MEASURES

Skin
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.

Ingestion
Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything to an unconscious person.

Inhalation
Remove person to fresh air. Seek medical attention if symptoms persist.

Most important symptoms/effects, acute and delayed
Aside from the information found under Description of necessary first aid measures (above) and Indication of immediate medical attention and special treatment needed, no additional symptoms and effects are anticipated.

Indication of immediate medical attention and special treatment needed
Notes to Physicians
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing Media
Water spray, carbon dioxide and dry chemical. Use extinguishing media appropriate for surrounding materials.

Unusual Fire and Explosion Hazards
Can release hazardous vapors during a fire.

Protective Equipment for Fire-Fighting
Wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Wear appropriate protective clothing.

Environmental Precautions
Prevent the material from entering drains or watercourses.

Methods and materials for containment and cleaning up
Contain and transfer into suitable containers for recovery or disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Wear appropriate protective clothing. Wash hands thoroughly after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
7. HANDLING AND STORAGE

Conditions for safe storage
Store in tightly closed original container in a cool, dry, locked place. Keep away from children and pets.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Exposure limits are listed below, if they exist.

Glycol ether
Supplier recommended limit: 25 ppm TWA

Appropriate engineering controls
No specific measures necessary. Good general room ventilation is expected to be adequate to control airborne levels.

Individual protection measures
Respiratory Protection
Not required under normal conditions of use.

Skin Protection
Chemical resistant gloves.

Eye/Face Protection
Safety glasses or goggles.

Body Protection
Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Physical State</th>
<th>Color</th>
<th>Odor</th>
<th>Odor Threshold</th>
<th>pH</th>
<th>Specific Gravity</th>
<th>Boiling Range/Point (°C/F)</th>
<th>Melting Point (°C/F)</th>
<th>Flash Point (PMCC) (°C/F)</th>
<th>Vapor Pressure</th>
<th>Evaporation Rate (BuAc=1)</th>
<th>Solubility in Water</th>
<th>Vapor Density (Air = 1)</th>
<th>VOC</th>
<th>Partition coefficient (n-octanol/water)</th>
<th>Viscosity</th>
<th>Auto-ignition Temperature</th>
<th>Decomposition Temperature</th>
<th>Upper explosive limit</th>
<th>Lower explosive limit</th>
<th>Flammability (solid, gas)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Liquid</td>
<td>Clear yellow</td>
<td>Mild</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>94.3/207</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Insoluble</td>
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<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
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</tr>
</tbody>
</table>

Revision Date: October 21, 2015
10. **STABILITY AND REACTIVITY**

**Reactivity**
Data is not available

**Chemical Stability**
Stable under normal conditions.

**Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**Conditions to Avoid**
Heat - high temperatures

**Incompatible Materials**
None known.

**Hazardous Decomposition Products**
Oxides of carbon - aldehydes - ketones - organic acids - hydrogen fluoride - oxides of nitrogen - oxides of sulfur - hydrochloric acid

11. **TOXICOLOGICAL INFORMATION**

See product insert and/or packaging for additional information.

**Acute Toxicity**

**Effitix**
Oral LD50 (rat) est. 550 mg/kg (UK-VMD)
Dermal LD50 (rabbit) >2000 mg/kg

**Specific Target Organ Toxicity (STOT) – single exposure**

**Fipronil:** In a single dose study in rats adverse neurological effects were observed. A NOAEL of 0.5 mg/kg bodyweight was established. (UK-VMD)

**Permethrin:** Acute Neurotoxicity Study in Rats: LOAEL = 75 mg/kg/day based on observations of clinical signs (i.e. aggression, abnormal and/or decreased movement) and increased body temperature (EPA) A NOAEL for neurotoxicity was established at 15 mg/kg per day. (UK-VMD)

**Specific Target Organ Toxicity (STOT) – repeat exposure**

**Fipronil:** In a 14 day repeat dose neurotoxicity study in dogs, the animals displayed neurotoxic signs which included hypoactivity, salivation, ataxia, convulsions, tremors, stiffened body, and muscle twitching. (UK-VMD)

**Permethrin:** 15-Day Inhalation Study in Rats LOAEL = 0.583 mg/l (converts to oral equivalent of 154 mg/kg/day) based on body tremors and hypersensitivity to noise. (EPA). A neurotoxicity study in rats showed dose-related responses. At doses greater than 1500 ppm animals displayed tremors, splayed hind legs and staggered gait. Deaths were observed at 4000 ppm. A NOAEL of 750 ppm was established. (UK-VMD)

**Serious Eye damage/Irritation**

**Effitix:** In-vitro study results classify this product as a potentially severe eye irritant. (UK-VMD)

**Fipronil:** Moderate eye irritation (rabbit). (EPA)

**Permethrin:** Moderate eye irritation (rabbit). (EPA)
11. TOXICOLOGICAL INFORMATION

**Skin Corrosion/Irritation**
Available data indicates this product is not expected to cause skin irritation.

**Respiratory or Skin Sensitization**
Effitix: Non-sensitizing and non-irritating (dermal – guinea pig).

**Carcinogenicity**
- **Permethrin:** EPA Classification: Likely to be Carcinogenic to Humans (by oral route) based on two reproducible benign tumor types (lung and liver) in the mouse, equivocal evidence of carcinogenicity in Long Evans rats, and supporting structural activity relationships (SAR) information.
- **Fipronil:** EPA: The carcinogenic potential of Fipronil has been classified as a Group C possible human carcinogen based on increases in thyroid follicular cell tumors in both sexes of the rat, which were statistically significant by both pair-wise and trend analyses. These results are thought to be due to a rodent specific liver effect not relevant to humans.

**Germ Cell Mutagenicity**
Available data indicates this product is not expected to be mutagenic.

**Reproductive Toxicity**
The studies indicate that Fipronil is a non-teratogenic substance and does not cause reproductive toxicity. Permethrin has no reproductive or embryo/foeto toxicity at doses non-toxic for mothers and is therefore not considered reprotoxic, foetotoxic, or to be a teratogen. (UK-VMD)

**Aspiration Hazard**
Not an aspiration hazard.

12. ECOLOGICAL INFORMATION

This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water. Do not contaminate water when disposing of equipment washwaters or rinsate.

**Ecotoxicity**
- **Fipronil**
  - LC50 Bluegill sunfish 0.085 mg/l 96h
  - EC50 Daphnia magna 0.19 mg/l 48h
- **Permethrin**
  - LC50 Bluegill sunfish 0.79ppb 48 hr
  - EC50 Hexagenia bilineuta 0.1ppb 48hr

**Mobility in soil**
No relevant studies identified.

**Persistence/Degradability**
No relevant studies identified.

**Bioaccumulative Potential**
No relevant studies identified.

**Other adverse effects**
No relevant studies identified.
13. DISPOSAL CONSIDERATIONS

**Product Disposal:** Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

**Container Disposal:** Nonrefillable container. Do not reuse or refill this container. If empty, offer for recycling if available.

14. TRANSPORT INFORMATION

Contact supplier for transport information.

15. REGULATORY INFORMATION

**United States TSCA Inventory**
This product is excluded from TSCA as it regulated under FIFRA Section 3(2)(B)(ii) when used as a pesticide.

**Federal Insecticide, Fungicide, and Rodenticide Act**
This is a pesticide product registered by the Environmental Protection Agency and is subject to certain labelling 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:

- Front and Back Panel:
  - **KEEP OUT OF REACH OF CHILDREN**
  - **CAUTION**
  - **READ ENTIRE LABEL BEFORE EACH USE**

- Back Panel:
  - **PRECAUTIONARY STATEMENTS**
  - **HAZARDS TO HUMANS AND DOMESTIC ANIMALS**
  - **HAZARDS TO HUMANS:** Harmful if swallowed or absorbed through the skin. Causes eye irritation. Avoid contact with skin, eyes, or clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

**STORAGE AND DISPOSAL**
Do not contaminate water, food, or feed by storage and disposal.

**STORAGE:** Store unused product in original container only, out of reach of children and animals.

**PESTICIDE/CONTAINER DISPOSAL:** If empty: Nonrefillable. Do not use or refill this container. Offer for recycling, if available. If partially filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

**Canada DSL Inventory**
This product is excluded from DSL listing as it is regulated under the Pest Control Products Act when used as a pesticide.

**California Proposition 65**
This product contains the following materials which the State of California has found to cause cancer, birth defects or other reproductive harm: Butylated hydroxyanisole

**SARA Title III Sect. 311/312 Categorization**
Immediate (acute) Delayed (Chronic)
15. REGULATORY INFORMATION

SARA Title III Sect. 313
This product contains the following chemicals that are listed in Section 313 at or above de minimis concentrations: Glycol ether - Permethrin (52645-53-1)

16. OTHER INFORMATION

Legend
ACGIH: American Conference of Governmental Industrial Hygienists
BOD: Biological Oxygen Demand
CAS#: Chemical Abstracts Service Number
DSL: Domestic Substances List
ECHA: European Chemicals Agency
EPA: Environmental Protection Agency
FIFRA: Federal Insecticide, Fungicide and Rodenticide Act
HDT: Highest Dose Tested
LC50: Lethal Concentration 50%
LD50: Lethal Dose 50%
LOEL: Lowest Observed Effect Level
N/A: Denotes no applicable information found or available
NFPA: National Fire Protection Association
NOEL: No Observed Effect Level
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
TSCA: Toxic Substances Control Act
SARA: Superfund Amendments and Reauthorization Act
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit
WHMIS: Workplace Hazardous Materials Information System
TLV: Threshold Limit Value
TSCA: Toxic Substance Control Act
UK-VMD: United Kingdom Veterinary Medicines Directorate

Revision Date: October 21, 2015
Replaces: April 24, 2012
Changes made: Updated to GHS Classification.

Information Source and References
This SDS is prepared by Hazard Communication Specialists based on information provided by internal company references.
Prepared By: EnviroNet LLC.

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