SAFETY DATA SHEET
KNOCKOUT™ Area Treatment

1. IDENTIFICATION

Product Name	KNOCKOUT™ Area Treatment
Recommended use of the chemical and restrictions on use	
Identified uses	Insecticide spray for use in homes and residential use sites.
Restrictions on Use	For indoor use only. Not for use in commercial or industrial buildings. It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
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: 1-800-338-3659 (human and pet)
Issue Date	December 19, 2016
Supersedes Date	September 24, 2010

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
Flammable Aerosols - Category 1
Acute hazard to the aquatic environment - Category 1 (This classification not adopted by OSHA)

Label Elements
Hazard Symbols

Signal Word: Danger

Hazard Statements
Extremely flammable aerosol.
Very toxic to aquatic life.

Precautionary Statements
Prevention
Pressurized container: Do not pierce or burn, even after use.
Do not spray on an open flame or other ignition source.
Keep away from heat/sparks/open flame/hot surfaces. - No smoking.
Avoid release to the environment.
Response
Collect spillage.

2. HAZARD IDENTIFICATION

Storage
Protect from sunlight.
Do not expose to temperatures exceeding 50 °C/122 °F.
Disposal
Dispose of contents/container in accordance with local regulation.

Other Hazards
Vapors are heavier than air and can cause suffocation by reducing available oxygen.
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	15 - 25%
Acute dermal toxicity	15 - 25%
Acute inhalation toxicity	20 - 30%
Acute aquatic toxicity	20 - 30%

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms:
This product is a mixture.

Component Name	CAS Number	Concentration
Propane	74-98-6	5 - 15%
Isobutane	75-28-5	5 - 15%
Hydrotreated light petroleum distillates	64742-47-8	5 - 10%
Tetramethrin	7696-12-0	0.4%
Phenothrin	26002-80-2	0.3%
Pyriproxyfen	95737-68-1	0.015%

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.
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 by mouth to an unconscious person.
Inhalation
Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to mouth, if possible. Call a poison control center or doctor for further treatment advice.

4. FIRST-AID MEASURES

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 absorb using earth, sand or other insert material. Transfer into suitable containers for recovery or disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Do not puncture, incinerate or place aerosol product containers in compactors. Use in well ventilated area. Use local exhaust ventilation. Avoid inhaling vapor or spray. Avoid contact with eyes, skin and clothing. Keep container tightly closed when not in use. Do not flame cut, braze or use welding torch on container.

Conditions for safe storage
Store away from sources of heat or ignition. Storage area should be: cool - dry - well ventilated - away from incompatible materials - out of direct sunlight - away from sources of ignition (heat, sparks, flames, and pilot lights) Do not store above 122°F.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Propane
ACGIH: See ACGIH Appendix F: Minimal Oxygen Content.
OSHA: PEL 1000 ppm (1800 mg/m^3) 8h TWA.
Isobutane as Butane, all isomers
ACGIH: 1000 pm 15 min STEL
Hydrotreated light petroleum distillates
Supplier recommended limit: 100 ppm (525 mg/m3) 8h TWA (Petroleum Distillate – Stoddard Solvent)

Appropriate engineering controls
Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions.

Individual protection measures
Respiratory Protection
Respiratory protection if there is a risk of exposure. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and the safe working limits of the selected respirator.
Skin Protection
Chemical resistant gloves.
Eye/Face Protection
Safety glasses or goggles.
Body Protection
Waterproof apron.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical State	Liquid
Color	Opaque
Odor	Solvent/insecticidal
Odor Threshold	No data available
pH	No data available
Specific Gravity	1.0
Boiling Range/Point (°C/F)	>93.3/200
Melting Point (°C/F)	Not applicable
Flash Point (PMCC) (°C/F)	No data available
Vapor Pressure	Not applicable
Evaporation Rate (BuAc=1)	Not applicable
Solubility in Water	Miscible
Vapor Density (Air = 1)	Not applicable
VOC	Not applicable
Partition coefficient (n-octanol/water)	Not applicable
Viscosity	Not applicable
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available

9. PHYSICAL AND CHEMICAL PROPERTIES

Upper explosive limit	No data available
Lower explosive limit	No data available
Flammability (solid, gas)	No data available

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 – temperatures above 130°F

Incompatible Materials
Oxidizers – strong acids and bases

Hazardous Decomposition Products
Oxides of carbon – volatile hydrocarbon vapors

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Hydrotreated light petroleum distillates
Oral LD50 (rat) >5000 mg/kg
Tetramethrin
Oral LD50 (rat)>5000 mg/kg
Dermal LD50 (rabbit) >2000 mg/kg
Inhalation LC50 (rat) >1.18 mg/l 4 hr
Phenothrin
Oral LD50 (rat)>5000 mg/kg
Dermal LD50 (rabbit) >2000 mg/kg
Inhalation LC50 (rat) >2.1 mg/l 4 hr
Pyriproxyfen
Oral LD50 (rat)>5000 mg/kg
Dermal LD50 (rabbit) >2000 mg/kg
Inhalation LC50 (rat) >1.3 mg/l 4 hr

Specific Target Organ Toxicity (STOT) – single exposure
Pyriproxyfen: Subchronic oral toxicity studies conducted with Pyriproxyfen Technical in the rat, mouse and dog indicate a low level of toxicity. The NOELs from these studies were 1000 ppm (149.4 mg/kg/day) in mice, 100 mg/kg/day in dogs and 400 ppm (23.5 mg/kg/day) in rats.

11. TOXICOLOGICAL INFORMATION

Specific Target Organ Toxicity (STOT) – repeat exposure
Pyriproxyfen: No significant systemic toxicity was observed in either the 21-day dermal toxicity study in rats or the 28-day inhalation toxicity study in rats. Subchronic and chronic toxicity studies in mice, rats and dogs indicate that the liver and kidney are the principal target organs with slight anemia occurring in the rodent species.
Tetramethrin: In a 21-day dermal toxicity study in rats at doses of 0, 100, 300, or 1,000 mg/kg/day in 5/sex/dose Sprague-Dawley rats. There were no treatment-related systemic toxic effects and a LOAEL was not established.

Serious Eye damage/Irritation
Pyriproxyfen: Eye irritation reversible within 7 days (Category III - EPA)
Tetramethrin : Eye irritation reversible within 7 days (Category III - EPA)
Phenothrin: Mild irritant (Category III - EPA)

Skin Corrosion/Irritation
Pyriproxyfen: Mild or slight skin irritation at 72 hours. (Category IV - EPA)
Phenothrin: Non-irritating (rabbit). (Category IV - EPA)

Respiratory or Skin Sensitization
Phenothrin: Not a skin sensitizer (guinea pig).
Pyriproxyfen: Non-sensitizing (guinea pig).

Carcinogenicity
Not considered carcinogenic by NTP, IARC, and OSHA.

Germ Cell Mutagenicity
No relevant studies identified.

Reproductive Toxicity
Pyriproxyfen: There was no evidence of increased susceptibility to rat and rabbit fetuses in prenatal developmental toxicity studies or to rat offspring in the 2-generation rat reproduction study. No evidence of developmental toxicity was seen in special studies that evaluated pyriproxyfen toxicity following perinatal and prenatal exposure in rats.

Aspiration Hazard
Not an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Tetramethrin
LC50 Rainbow trout 3.7 ppb 96h
EC50 Daphnia magna 45 ppb 48h
Phenothrin
LC50 Bluegill Sunfish 15.8 µg/l 96h
LC50 Daphnia magna µg/l ppb 48h

Mobility in soil
No relevant studies identified.

12. ECOLOGICAL INFORMATION

Persistence/Degradability
No relevant studies identified.

Bioaccumulative Potential
No relevant studies identified.

Other adverse effects
No relevant studies identified.

13. DISPOSAL CONSIDERATIONS

Product Disposal and Container Handling: Do not puncture or incinerate. 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

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 Panel:
FOR INDOOR USE ONLY
KEEP OUT OF REACH OF CHILDREN
CAUTION
SEE SIDE/BACK PANEL FOR
ADDITIONAL PRECAUTIONARY STATEMENTS
Side/Back Panel:
READ ENTIRE LABEL BEFORE EACH USE
PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION
HAZARDS TO HUMANS AND DOMESTIC ANIMALS: Harmful if absorbed through the skin. Avoid contact with skin, eyes or clothing. Wear long-sleeved shirt and long pants, socks, shoes and chemical resistant gloves (such as barrier laminate, nitrile rubber, neoprene rubber or viton). Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Avoid contamination of food and foodstuffs.

15. REGULATORY INFORMATION

PHYSICAL AND CHEMICAL HAZARDS
Contents under pressure. Keep away from heat, sparks and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting. (PICTURE OF FLAME)
HOT LINE NUMBER
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1 800 345 4735 for emergency medical treatment information.
DIRECTIONS FOR USE (see label for complete instructions)
PRECAUTIONS AND RESTRICTIONS
Do not enter or allow others to enter the treated area until the sprays have dried. Do not allow people or pets to enter treated areas until vapors, mists, or aerosols have dispersed, and the treated area has been thoroughly ventilated. Remove pets, birds, and cover fish aquariums and ornamental fish ponds before spraying and turn aquarium systems off. Do not apply when food is present. Cover all food processing surfaces and utensils during treatment and thoroughly wash utensils before use.. Do not apply this product in a way that will contact adults, children or pets either directly or through drift.
STORAGE AND DISPOSAL
Do not contaminate water, food, or feed by storage and disposal.
Pesticide Storage: Store in a cool dry place inaccessible to children and away from heat and open flame. Store away from food and pet food.
Pesticide Disposal and Container Handling: Do not puncture or incinerate. **If empty**: Place in trash or offer for recycling, if available. **If partly filled**: Call your local solid waste agency for disposal instructions.

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.

SARA Title III Sect. 311/312 Categorization
Flammable (aerosol)

SARA Title III Sect. 313
The following chemicals are listed in Section 313 at or above de minimis concentrations: None

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
HMIS: Hazardous Materials Identification System IARC: International Agency for Research on Cancer
LC50: Lethal Concentration 50%
LD50: L 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

16. OTHER INFORMATION

Lethal Dose 50%
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

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Replaces: September 24, 2010
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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