1. IDENTIFICATION

Product Name: KERATOLUX® (Piroctone Olamine)
Recommended use of the chemical and restrictions on use
   Identified uses: Medicated shampoo for dogs and cats
   Restrictions on Use: For animal use only. For external use only. Not for otic use.

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:
      Human Toll-free 833-224-2009
      Animal Toll-free 833-224-2013

Issue Date: March 4, 2020
Supersedes Date: July 30, 2018

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. HAZARDS IDENTIFICATION

Hazard Classification
   Eye Damage/Irritation - Category 1
   Skin Corrosion/Irritation - Category 2

Label Elements
   Hazard Symbols

Signal Word: Danger

Hazard Statements
   Causes serious eye damage.
   Causes skin irritation.

Precautionary Statements
   Prevention
      Wear eye protection/face protection.
      Wash hands thoroughly after handling.

   Response
      If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.
      If on skin: wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
      If skin irritation occurs, get medical advice/attention.
2. HAZARDS IDENTIFICATION

Storage
None
Disposal
None
Other Hazards
None

Specific Concentration Limits
The values listed below represent the percentages of ingredients of unknown toxicity.

- Acute oral toxicity: 35 - 45%
- Acute dermal toxicity: 35 - 45%
- Acute inhalation toxicity: 35 - 45%
- Acute aquatic toxicity: 35 - 45%

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>Poly(oxy-1,2-ethanediyl), alpha-sulfo-omega-hydroxy-, C10-16-alkyl ethers, sodium salts</td>
<td>68585-34-2</td>
<td>3 - 7%</td>
</tr>
<tr>
<td>1-Dodecanaminium, N-(carboxymethyl)-N,N-dimethyl-, inner salt</td>
<td>683-10-3</td>
<td>3 - 7%</td>
</tr>
<tr>
<td>1-Tetradecanaminium, N-(carboxymethyl)-N,N-dimethyl-, inner salt</td>
<td>2601-33-4</td>
<td>1 - 5%</td>
</tr>
<tr>
<td>Glycerin</td>
<td>56-81-5</td>
<td>1 - 5%</td>
</tr>
<tr>
<td>Piroctone Olamine</td>
<td>68890-66-4</td>
<td>0.1 - 1.0%</td>
</tr>
<tr>
<td>Acetic acid, 2-hydroxy-,sodium salt (1:1)</td>
<td>2836-32-0</td>
<td>0.1 - 1.0%</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Description of necessary first-aid measures

**Eyes**
Immediately flood the eye with plenty of water for at least 15-20 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

**Skin**
If irritation develops wash skin thoroughly with soap and water. Obtain medical attention if redness or soreness persists.

**Ingestion**
Call a poison control center or doctor immediately for treatment advice. 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**
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.
4. FIRST AID MEASURES

Indication of immediate medical attention and special treatment needed

Notes to Physicians
Treat symptomatically.

5. FIRE - FIGHTING MEASURES

Extinguishing Media
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
Wipe up and transfer into suitable containers for recovery or disposal. Prevent the material from entering drains or watercourses.

7. HANDLING AND STORAGE

Precautions for safe handling
Wear appropriate protective clothing. Avoid contact with eyes. Wash hands thoroughly after handling and before eating, drinking or smoking.

Conditions for safe storage
Store in original container at controlled room temperature of 59-86°F (15-30°C). Store away from children and pets.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Poly(oxy-1,2-ethanediyl), alpha-sulfo-omega-hydroxy-, C10-16-alkyl ethers, sodium salts
None established.
1-Dodecanaminium, N-(carboxymethyl)-N,N-dimethyl-, inner salt
None established.
1-Tetradecanaminium, N-(carboxymethyl)-N,N-dimethyl-, inner salt
None established.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Glycerin (Mist)
ACGIH: TLV 10 mg/m³ 8h TWA.
OSHA: PEL 5 mg/m³ 8h TWA respirable fraction
15mg/m³ 8h TWA total dust

Piroctone Olamine
None established.

Acetic acid, 2-hydrox-,sodium salt (1:1)
None established.

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. Professional groomers and those with repeated and extended exposures should consider the use of respiratory protection if there is a risk of exposure to high vapor concentrations or aerosols. The specific respirator selected must be based on the airborne concentration found in the workplace and must not exceed the working limits of the respirator.

Skin Protection
Chemical resistant gloves.

Eye/Face Protection
Safety glasses with side shields or goggles.

Body Protection
Waterproof apron.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
</table>
| Appearance
  Physical State                                | Liquid (gel)                       |
  Color                                        | Clear Light yellow                 |
| Odor                                         | None                               |
| Odor Threshold                                | No data available                  |
| pH                                           | 4.5 - 6                            |
| Density                                      | No data available                  |
| Boiling Range/Point (°C/F)                    | No data available                  |
| Melting Point (°C/F)                          | No data available                  |
| Flash Point (PMCC) (°C/F)                     | Not flammable                      |
| Vapor Pressure                                | No data available                  |
| Evaporation Rate (BuAc=1)                     | No data available                  |
| Solubility in Water                          | Soluble                            |
| Vapor Density (Air = 1)                       | No data available                  |
| VOC                                          | No data available                  |
| Partition coefficient (n-octanol/water)       | Not applicable                     |
| Viscosity                                    | Not applicable                     |
| Auto-ignition Temperature                     | No data available                  |
| Decomposition Temperature                     | No data available                  |
| 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 - high temperatures

Incompatible Materials
Strong oxidizers – strong acids

Hazardous Decomposition Products
Oxides of carbon – aldehydes – sulfur oxides

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
No relevant studies identified.

Specific Target Organ Toxicity (STOT) – single exposure
Available data indicates this product is not expected to cause target organ effects after a single exposure.

Specific Target Organ Toxicity (STOT) – repeat exposure
Available data indicates this product is not expected to cause target organ effects after repeated exposure.

Serious Eye damage/Irritation
Poly(oxy-1,2-ethanediyl), alpha-sulfo-omega-hydroxy-, C10-16-alkyl ethers, sodium salts: Causes serious eye irritation.
1-Dodecanaminium, N-(carboxymethyl)-N,N-dimethyl-, inner salt: Severely irritating to eyes in rabbit studies.
1-Tetradecanaminium, N-(carboxymethyl)-N,N-dimethyl-, inner salt: Severely irritating to eyes in rabbit studies.
Piroctone Olamine: Risk of serious damage to eyes.
Acetic acid, 2-hydrox-, sodium salt (1:1): Causes serious eye damage.

Skin Corrosion/Irritation
Poly(oxy-1,2-ethanediyl), alpha-sulfo-omega-hydroxy-, C10-16-alkyl ethers, sodium salts: Causes skin irritation.
1-Dodecanaminium, N-(carboxymethyl)-N,N-dimethyl-, inner salt: Causes skin irritation.
1-Tetradecanaminium, N-(carboxymethyl)-N,N-dimethyl-, inner salt: Causes skin irritation.

Respiratory or Skin Sensitization
Available data indicates this product is not expected to cause skin sensitization.

Carcinogenicity
Not considered carcinogenic by NTP, IARC, and OSHA.
11. TOXICOLOGICAL INFORMATION

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

Reproductive Toxicity
Available data indicates this product is not expected to cause reproductive toxicity or birth defects.

Aspiration Hazard
Not an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity
No relevant studies identified.

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

Disposal Methods
Dispose of in accordance with all applicable local and national regulations.

14. TRANSPORT INFORMATION

Contact supplier for transport information.

15. REGULATORY INFORMATION

United States TSCA Inventory
This product is excluded from the US EPA Toxic Substance Control Act and is regulated under the Food, Drug and Cosmetic Act.

SARA Title III Sect. 311/312 Categorization
Serious eye damage – Skin irritation

SARA Title III Sect. 313
This product contains a chemical that is listed in Section 313 at or above de minimis concentrations. The following listed chemicals are present: None
16. OTHER INFORMATION

Legend
ACGIH: American Conference of Governmental Industrial Hygienists
BOD: Biological Oxygen Demand
CAS#: Chemical Abstracts Service Number
ECHA: European Chemicals Agency
FIFRA: Federal Insecticide, Fungicide and Rodenticide Act
IARC: International Agency for Research on Cancer
LC50: Lethal Concentration 50%
LD50: Lethal Dose 50%
N/A: Denotes no applicable information found or available
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
TLV: Threshold Limit Value
TSCA: Toxic Substance Control Act

Revision Date: March 4, 2020
Replaces: July 30, 2018
Changes made: Update to emergency numbers.

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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