1. IDENTIFICATION OF THE SUBSTANCE/PREPARATIONS AND OF THE COMPANY UNDERTAKING

Product Name: C. E. T.® Oral Hygiene Rinse  
Product Description: Oral hygiene rinse for cats and dogs  
Manufacturer/Supplier: Virbac AH, Inc.  
Address: P.O. Box 162059  
Fort Worth, Texas 76161  
Phone Number: (800) 338-3659  
Chemtrec Number (24 hour): (800) 424-9300  
Other Emergency Numbers: Poison Control Center: 1-800-222-1222  
MSDS Revision Date: 27 August 2012  
Supersedes MSDS Dated: June 20, 2011


2. HAZARDS IDENTIFICATION

Emergency Overview
CAUTION!
For animal use only.
Keep out of reach of children.
Read entire label before each use.

Routes of Entry
Eye contact - Skin contact - Ingestion - Inhalation

Carcinogenic Status
Not considered carcinogenic by NTP, IARC, and OSHA.

Target Organs
Eyes - Skin

Health Effects - Eyes
Contact with eyes may cause slight irritation.

Health Effects - Skin
Contact with skin may cause slight irritation.

Health Effects - Ingestion
Ingestion of large quantities of this material may cause gastrointestinal effects such as nausea, vomiting, diarrhea, and abdominal cramps.

Health Effects - Inhalation
No adverse effects are expected during normal conditions of use.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS Number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorhexidine Gluconate</td>
<td>18472-51-0</td>
<td>~0.12%</td>
</tr>
<tr>
<td>Sorbitol</td>
<td>50-70-4</td>
<td>10 - 20%</td>
</tr>
<tr>
<td>Zinc Glutonate</td>
<td>4468-02-4</td>
<td>&lt;0.1%</td>
</tr>
<tr>
<td>Glycerine</td>
<td>56-81-5</td>
<td>45 - 55%</td>
</tr>
<tr>
<td>Cetylpyridinium chloride monohydrate</td>
<td>6004-24-6</td>
<td>0.05%</td>
</tr>
</tbody>
</table>
4. **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.

   **Advice 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**

   Wear appropriate protective clothing. Wipe up and transfer into suitable containers for recovery or disposal. Prevent the material from entering drains or watercourses.

7. **HANDLING AND STORAGE**

   Store in original container at room temperature. Store away from children and pets. Avoid contact with eyes.

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

   **Occupational Exposure Standards**
   Exposure limits are listed below, if they exist.

   **Chlorhexidine Gluconate**
   None established

   **Zinc Glutonate**
   None established

   **Sorbitol**
   None established

   **Cetylpyridinium Chloride Monohydrate**
   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
15 mg/m³ 8h TWA total dust

Engineering Control Measures
No specific measures necessary. Good general room ventilation is expected to be adequate to control airborne levels.

Respiratory Protection
Not required under normal conditions of use.

Hand Protection
Protective gloves.

Eye Protection
Not required under normal conditions of use.

Body Protection
Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solution</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless to light tan, hazy water solution</td>
</tr>
<tr>
<td>Odor</td>
<td>Orange</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Range/Point (°C/F)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting Point (°C/F)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash Point (PMCC) (°C/F)</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Explosion Limits (%)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Density (Air = 1)</td>
<td>No data available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
Stable under normal conditions.

Conditions to Avoid
Heat - high temperatures

Materials to Avoid
Strong oxidizers

Hazardous Polymerization
Will not occur.

Hazardous Decomposition Products
Oxides of carbon - acrolein
11. TOXICOLOGICAL INFORMATION

See product packaging for additional information.

**Acute Toxicity**
- Chlorhexidine Gluconate: Oral LD50 (rat) (male) 2,292 mg/kg (female) 3,055 mg/kg (analogous compound) Dermal LD50 (rabbit) >2000 mg/kg (analogous compound) Inhalation LC50 (rat) 0.30mg/l (males), 0.43 mg/l (females) (analogous compound)
- Glycerin: Oral LD50 (Rat) 12,600 mg/kg
- Sorbitol: Oral LD50 (rat) 15,900 mg/kg
- Cetylpyridinium Chloride Monohydrate: LD50 Oral (rat) 560 mg/kg, LD50 Dermal (rabbit) >5000 mg/kg LC50 Inhalation (rat) 0.09mg/L 4hrs for aerosolized CPC only

**Specific Target Organ Systemic Toxicity (single and repeat)**
- Chlorhexidine Gluconate: In a dermal toxicity study with rabbits that were topically treated, systemic liver effects were noted at the 500mg/kg/day level. (analogous compound)
- Sorbitol: Reports of adverse reactions to sorbitol are largely due to its action as an osmotic laxative when ingested orally, which may be exploited therapeutically. Ingestion of large quantities of sorbitol (> 20g/day in adults) should therefore be avoided.

**Serious Eye damage/Eye Irritation**
- Chlorhexidine Gluconate: Irritating to the eye. (analogous compound)
- Glycerin: Animal studies have shown glycerin to be not irritating or slightly irritating to eyes.
- Cetylpyridinium Chloride Monohydrate: Can cause severe irritation of the eyes (OECD 404 & 405).

**Skin Corrosion/Irritation**
- Chlorhexidine Gluconate: Subchronic toxicity, rat, dermal – dermal irritant (analogous compound)
- Glycerin: Human skin tests have shown glycerin to be slightly irritating.
- Cetylpyridinium Chloride Monohydrate: Can cause severe irritation of the eyes (OECD 404 & 405).

**Respiratory or Skin Sensitization**
- Cetylpyridinium Chloride Monohydrate: Not a contact sensitizer per Buehler dermal sensitization assay (OECD 406).

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

**Germ Cell Mutagenicity**
- Chlorhexidine Gluconate: Gene mutation – no adverse effect (analogous compound)
- Chlorhexidine Gluconate: Chromosome effects – no adverse effects (analogous compound)
- Chlorhexidine Gluconate: DNA Damage – no adverse effects (analogous compound)
- Cetylpyridinium Chloride Monohydrate: Negative in Ames assay, both with and without metabolic activation.

**Toxicity to Reproduction**
- Chlorhexidine Gluconate: Teratology- rat – no adverse effect (analogous compound)
- Cetylpyridinium Chloride Monohydrate: Limited evidence of teratogenic effects: Investigators studied the offspring of 292 women using this substance as a medication in the first trimester of pregnancy and found 9 malformations. The rate was 31 congenital defects per 1000 while the mean rate was 16 per 1000. This increase was not statistically significant.

12. ECOLOGICAL INFORMATION

**Mobility**
- Cetylpyridinium Chloride Monohydrate: If released to soil, cetylpyridinium chloride is expected to have low mobility. Quaternary ammonium compounds are known to sorb strongly and rapidly in well-mixed systems, to a wide variety of materials, such as sewage sludge, sediment and clay.

**Persistence/Degradability**
- Cetylpyridinium Chloride Monohydrate: 25%Primary degradation after 38 days in OECD 301D closed bottle test.

**Bio-accumulation**
- Cetylpyridinium Chloride Monohydrate: An estimated BCF of 5.7, based on a measured log Kow of 1.71, suggests the potential for bioconcentration in aquatic organisms is low.
12. ECOLOGICAL INFORMATION

Ecotoxicity
Chlorhexidine Gluconate: LC50 Oncorhynchus Mykiss (Rainbow trout, Donaldson trout) 1.9 ppm/96 hr
LC50 Lepomis macrochirus (Bluegill sunfish) 0.6 ppm/96 hr (analogous cmpd)
Cetylpyrydinium Chloride Monohydrate: LC50 (Rainbow trout) 0.16 mg/l 96 hr
EC50 (Daphnia magna) 9.18 μg/l 48 hr

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

Contact supplier for transport information.

15. REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA Listing</td>
</tr>
</tbody>
</table>
This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substance Control Act Chemical Substance (TSCA) Inventory. |
| DSL (Canadian) Listing |
This product contains ingredients that have not been verified for listing on the Domestic Substance List (DSL). |
| WHMIS Classification |
This product is not a controlled substance under WHMIS. This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations. |
| MA Right To Know Law |
This product contains the following chemicals on the Massachusetts Right to Know Law: None |
| PA Right To Know Law |
This product contains the following chemicals on the Pennsylvania Hazardous Substance List: Glycerine (56-81-5) |
| NJ Right To Know Law |
This product contains the following chemicals on the New Jersey Workplace Hazardous Substance List: Glycerine (56-81-5) |
| California Proposition 65 |
This product contains the following chemicals which the State of California has found to cause cancer, birth defects or other reproductive harm: None |
| SARA Title III Sect. 311/312 Categorization |
None |
| SARA Title III Sect. 313 |
This product contains the following chemicals that are listed in Section 313 at or above de minimis concentrations: None |
16. OTHER INFORMATION

NFPA Ratings
NFPA Code for Flammability - 0
NFPA Code for Health - 1
NFPA Code for Reactivity - 0
NFPA Code for Special Hazards – 0

HMIS Ratings
HMIS Code for Flammability - 0
HMIS Code for Health - 1
HMIS Code for Reactivity - 0
HMIS Code for Personal Protection - See Section 8

Abbreviations
ACGIH: American Conference of Governmental Industrial Hygienists
BOD: Biological Oxygen Demand
CAS#: Chemical Abstracts Service Number
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

For further Information call: (800) 338-3659
Prepared By: EnviroNet LLC

C.E.T. is a registered trademark of Virbac Corporation.

The information and recommendations presented in this MSDS are based on sources believed to be accurate. Virbac AH, Inc. assumes no liability for the accuracy or completeness of this information. It is the user’s responsibility to determine the suitability of the material for their particular purposes. In particular, we make NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, with respect to such information, and we assume no liability resulting from its use. Users should ensure that any use or disposal of the material is in accordance with applicable Federal, State, and local laws and regulations.