1. Identification

Product identifier: Calvenza™ 03 EIV/EHV (Killed Virus)

Other means of identification:

- APHIS Code 1515.2A, Family Code – 326

Recommended use:

For the vaccination of healthy, susceptible horses 6 months of age or older, including pregnant mares, as an aid in the reduction of respiratory disease caused by equine herpesvirus type 1 (EHV-1) and type 4 (EHV-4), and by equine influenza virus types A2 North American and A2 Eurasian.

Recommended restrictions:

None known.

Manufacturer/Importer/Supplier/Distributor information:

Boehringer Ingelheim Vetmedica, Inc.

2621 North Belt Hwy

St. Joseph, MO 64506-2002

Transportation emergency:

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night

Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

Medical Emergency (24HR):

(800) 821-7467

Non-Emergency calls:

(866)638-2226

2. Hazard(s) identification

Physical hazards: Not classified.

Health hazards: Not classified.

OSHA defined hazards: Not classified.

Label elements:

- Hazard symbol: None.
- Signal word: None.
- Hazard statement: The mixture does not meet the criteria for classification.
- Precautionary statement:
  - Prevention: Observe good industrial hygiene practices.
  - Response: Wash hands after handling.
  - Storage: Store away from incompatible materials.
  - Disposal: Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC): None known.

Supplemental information:

Contains a small amount of organic mercury compound.

3. Composition/information on ingredients

Mixtures:

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thiomersal</td>
<td>54-64-8</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Gentamicin</td>
<td>NA</td>
<td>Proprietary</td>
</tr>
<tr>
<td>Inactivated equine herpesvirus</td>
<td>NA</td>
<td>Proprietary</td>
</tr>
<tr>
<td>Inactivated equine rhinopneumonitis-influenza virus</td>
<td>NA</td>
<td>Proprietary</td>
</tr>
</tbody>
</table>
**Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.**

**Composition comments**

All concentrations are in percent by weight. Components not listed are either non-health-hazardous or are below reportable limits.

**4. First-aid measures**

**Inhalation**

Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact**

Wash off with soap and water. Get medical attention if irritation develops and persists.

**Eye contact**

Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion**

Rinse mouth. Get medical attention if symptoms occur.

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

Direct contact with eyes may cause temporary irritation.

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

Treat symptomatically.

**General information**

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**5. Fire-fighting measures**

**Suitable extinguishing media**

Use extinguishing agent suitable for type of surrounding fire.

**Unsuitable extinguishing media**

None known.

**Specific hazards arising from the chemical**

During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters**

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions**

Move containers from fire area if you can do so without risk.

**Specific methods**

Use standard firefighting procedures and consider the hazards of other involved materials.

**General fire hazards**

The product is an aqueous solution. After the water component evaporates, the remaining material will burn.

**6. Accidental release measures**

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

Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up**

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

**Environmental precautions**

Avoid discharge into drains, water courses or onto the ground.

**7. Handling and storage**

**Precautions for safe handling**

Observe good industrial hygiene practices.

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

Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store at 2°-7° C (35°-45° F). Do not freeze. Shake well before using.

**8. Exposure controls/personal protection**

**Occupational exposure limits**

<table>
<thead>
<tr>
<th>US. OSHA Table Z-2 (29 CFR 1910.1000) Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thiomersal (CAS 54-64-8)</td>
<td>Ceiling</td>
<td>0.04 mg/m3</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>0.01 mg/m3</td>
</tr>
<tr>
<td>US. ACGIH Threshold Limit Values Components</td>
<td>Type</td>
<td>Value</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>------</td>
<td>----------</td>
</tr>
<tr>
<td>Thiomersal (CAS 54-64-8)</td>
<td>STEL</td>
<td>0.03 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>0.01 mg/m³</td>
</tr>
<tr>
<td>US. NIOSH: Pocket Guide to Chemical Hazards Components</td>
<td>Type</td>
<td>Value</td>
</tr>
<tr>
<td>Thiomersal (CAS 54-64-8)</td>
<td>STEL</td>
<td>0.03 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>0.01 mg/m³</td>
</tr>
</tbody>
</table>

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Exposure guidelines**

**US - California OELs: Skin designation**
Thiomersal (CAS 54-64-8)
Can be absorbed through the skin.

**US - Tennessee OELs: Skin designation**
Thiomersal (CAS 54-64-8)
Can be absorbed through the skin.

**US ACGIH Threshold Limit Values: Skin designation**
Thiomersal (CAS 54-64-8)
Can be absorbed through the skin.

**US. NIOSH: Pocket Guide to Chemical Hazards**
Thiomersal (CAS 54-64-8)
Can be absorbed through the skin.

**Appropriate engineering controls**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Individual protection measures, such as personal protective equipment**

- **Eye/face protection**
  Wear safety glasses with side shields (or goggles).

- **Skin protection**
  - **Hand protection**
    Wear appropriate chemical resistant gloves.

- **Respiratory protection**
  In case of insufficient ventilation, wear suitable respiratory equipment.

- **Thermal hazards**
  Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. Physical and chemical properties**

**Appearance**

- **Physical state**
  Liquid.

- **Form**
  Suspension of inactivated virus supplied in high density plastic bottles.

- **Color**
  Opaque.

- **Odor**
  Not available.

- **Odor threshold**
  Not available.

- **pH**
  Not available.

- **Melting point/freezing point**
  Not available.

- **Initial boiling point and boiling range**
  Not available.

- **Flash point**
  Not available.

- **Evaporation rate**
  Not available.

- **Flammability (solid, gas)**
  Not applicable.

- **Upper/lower flammability or explosive limits**
  - **Flammability limit - lower (%)**
    Not available.

  - **Flammability limit - upper (%)**
    Not available.

- **Vapor pressure**
  Not available.
Vapor density Not available.
Relative density Not available.
Solubility(ies) Not available.
  Solubility (water) Not available.
Partition coefficient (n-octanol/water) Not available.
Auto-ignition temperature Not available.
Decomposition temperature Not available.
Viscosity Not available.
Other information
  Explosive properties Not explosive.
  Oxidizing properties Not oxidizing.

10. Stability and reactivity
Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability Material is stable under normal conditions.
Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.
Conditions to avoid Avoid freezing.
Incompatible materials Strong oxidizing agents.
Hazardous decomposition products No hazardous decomposition products are known.

11. Toxicological information
Information on likely routes of exposure
  Inhalation Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
  Skin contact Contains component(s) which may be absorbed through the skin.
  Eye contact Direct contact with eyes may cause temporary irritation.
  Ingestion No harmful effects expected in amounts likely to be ingested by accident.
Symptoms related to the physical, chemical and toxicological characteristics
  Direct contact with eyes may cause temporary irritation.

Information on toxicological effects
Acute toxicity May be harmful if swallowed in large quantities.
Skin corrosion/irritation Components of the product may be absorbed into the body through the skin.
Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization
  Respiratory sensitization Not a respiratory sensitizer.
  Skin sensitization This product is not expected to cause skin sensitization.
Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity No data available to indicate product or any components present at greater than 0.1% are carcinogenic.

IARC Monographs. Overall Evaluation of Carcinogenicity
  Not listed.
NTP Report on Carcinogens
  Not listed.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
  Not regulated.
Reproductive toxicity Not classified. However: Contains a substance which may have a reproductive effect.
Specific target organ toxicity - single exposure
  Not classified.
Specific target organ toxicity - repeated exposure
Not classified.

Aspiration hazard
Not an aspiration hazard.

12. Ecological information

Ecotoxicity
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability
No data available.

Bioaccumulative potential
Mercury bioaccumulates and concentrates in the food chain.

Mobility in soil
This product is water soluble and may disperse in soil.

Other adverse effects
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions
Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations
Dispose in accordance with all applicable regulations.

Hazardous waste code
This product contains mercury. The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging
Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not established.

15. Regulatory information

US federal regulations
One or more components are not listed on TSCA. Therefore, it can only be used for TSCA exempt purposes such as R&D or veterinary use. FEDERAL LAW RESTRICTS THIS DRUG TO USE BY OR ON ORDER OF LICENSED VETERINARIANS.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.

SARA 304 Emergency release notification
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous chemical
No

SARA 313 (TRI reporting)
Not regulated.
Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Thiomersal (CAS 54-64-8)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations

US. Massachusetts RTK - Substance List
Thiomersal (CAS 54-64-8)

US. New Jersey Worker and Community Right-to-Know Act
Thiomersal (CAS 54-64-8)

US. Pennsylvania Worker and Community Right-to-Know Law
Thiomersal (CAS 54-64-8)

US. Rhode Island RTK
Not regulated.

California Proposition 65
WARNING: This product can expose you to Thiomersal, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Developmental toxin
Thiomersal (CAS 54-64-8) Listed: July 1, 1990

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Taiwan Chemical Substance Inventory (TCSI)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 03-August-2017
Revision date 16-January-2018
Version # 03

HMIS® ratings
Health: 1
Flammability: 1
Physical hazard: 0

NFPA ratings

Calvenza™ 03 EIV/EHV (Killed Virus) SDS US
939153  Version #: 03  Revision date: 16-January-2018  Issue date: 03-August-2017  6 / 7
Disclaimer

The information provided herein is offered by Boehringer Ingelheim Vetmedica, Inc. ("BIVI") in good faith as accurate as of the date hereof, but without guarantee. This information includes information which has been generated by other parties and provided to BIVI, and which BIVI has not independently verified. The information provided herein relates only to the specific product designated, and may not be valid where such product is used in combination with any other materials or in any process. The information provided herein is offered solely for your consideration, investigation and verification, and Boehringer Ingelheim Vetmedica, Inc. ("BIVI") expressly disclaims all liability for reliance thereon. BIVI EXPRESSLY DISCLAIMS ALL WARRANTIES OF EVERY KIND AND NATURE (INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) WITH RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. In addition, since the conditions of use and suitability of the product for particular uses are beyond BIVI's control, ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER, AND BIVI EXPRESSLY DISCLAIMS ANY AND ALL LIABILITY AS TO ANY RESULTS OBTAINED OR ARISING FROM ANY USE OF THE PRODUCT. Use or transmission of the information contained herein in any other format than the format as presented is strictly prohibited. Nothing herein shall be construed as permission or recommendation for the use of the product in a manner that might infringe an existing patent. BIVI neither represents nor warrants that the format, content or product formulas contained in this document comply with the laws of any other country except the United States of America.