1. Identification

Product identifier
Tylosin Injection

Other means of identification
None.

Recommended use
For use in the treatment of bovine respiratory complex and metritis associated with Pasteurella multocida and Actinomyces pyogenes; metritis cause by A. pyogenes; footrot and calf diphtheria caused by Fusobacterium necrophorum in beef cattle and non-lactating dairy cattle. Also used in swine to treat swine arthritis caused by Mycoplasma hyosynoviae; pneumonia caused by Pasteurella spp.; erysipelas caused by Erysipelothrix rhusiopathiae, and acute swine dysentery associated with Brachyspira hyodysenteriae when followed by appropriate medication in drinking water and/or feed.

Recommended restrictions
None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer
Boehringer Ingelheim Vetmedica, Inc.
Address
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):
(866)638-2226
Non-Emergency calls:
(800) 821-7467

2. Hazard(s) identification

Physical hazards
Not classified.

Health hazards
Serious eye damage/eye irritation Category 2A
Sensitization, respiratory Category 1
Sensitization, skin Category 1

OSHA defined hazards
Not classified.

Label elements

Signal word
Danger

Hazard statement
May cause an allergic skin reaction. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statement

Prevention
Avoid breathing mist or vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves. Wear eye/face protection. In case of inadequate ventilation wear respiratory protection.

Response
If on skin: Wash with plenty of water. If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. If experiencing respiratory symptoms: Call a poison center/doctor. Wash contaminated clothing before reuse.

Storage
Store away from incompatible materials.
Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.

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

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol</td>
<td>57-55-6</td>
<td>50</td>
</tr>
<tr>
<td>Tylosin</td>
<td>1401-69-0</td>
<td>15-20</td>
</tr>
<tr>
<td>Benzyl alcohol</td>
<td>100-51-6</td>
<td>4</td>
</tr>
</tbody>
</table>

4. First-aid measures

- **Inhalation**: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

- **Skin contact**: Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.

- **Eye contact**: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

- **Ingestion**: Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.

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

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Difficulty in breathing. May cause an allergic skin reaction. Dermatitis. Rash. Ingestion of a large quantity may cause nausea and systemic effects.

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

Not for human use. For use in animals only. Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed. Persons developing anaphylactic (life threatening) reactions, such as difficulty in breathing or unconsciousness, must receive immediate medical attention.

**General information**

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

5. Fire-fighting measures

- **Suitable extinguishing media**: Powder. Alcohol resistant foam. Carbon dioxide (CO2).

- **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**: No unusual fire or explosion hazards noted.

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
Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Use care in handling/storage.

Conditions for safe storage, including any incompatibilities
Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Store away from foodstuffs. Store material between 2°C (36°F) and 8°C (46°F).

8. Exposure controls/personal protection
Occupational exposure limits
US. Workplace Environmental Exposure Level (WEEL) Guides

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol (CAS 100-51-6)</td>
<td>TWA</td>
<td>44.2 mg/m3</td>
<td></td>
</tr>
<tr>
<td>Propylene glycol (CAS 57-55-6)</td>
<td>TWA</td>
<td>10 ppm</td>
<td>Aerosol.</td>
</tr>
</tbody>
</table>

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

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. General ventilation normally adequate. Provide eyewash station.

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.

Other
Wear appropriate chemical resistant clothing.

Respiratory protection
If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

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. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties
Appearance
Physical state
Liquid.
Form
Liquid.
Color
Colorless to light yellow.
Odor
Odorless.
Odor threshold
Not available.
pH
7.5
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.
Explosive limit - lower (%) Not available.
Explosive limit - upper (%) Not available.
Vapor pressure Not available.
Vapor density Not available.
Relative density 1.06
Solubility(ies)
  Solubility (water) Soluble in water (cold and hot)
Partition coefficient (n-octanol/water) Not available.
Auto-ignition temperature Not available.
Decomposition temperature Not available.
Viscosity Not available.

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 Contact with incompatible materials. Excessive heat. Keep from 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 May cause allergy or asthma symptoms or breathing difficulties if inhaled. Prolonged inhalation may be harmful.
  Skin contact May cause an allergic skin reaction.
  Eye contact Causes serious eye irritation.
  Ingestion Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Difficulty in breathing. May cause an allergic skin reaction. Dermatitis. Rash. Ingestion of a large quantity may cause nausea and systemic effects.
Information on toxicological effects
Acute toxicity May cause allergic respiratory reaction. May cause an allergic skin reaction.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol (CAS 100-51-6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>2000 mg/kg</td>
</tr>
<tr>
<td>Inhalation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC100</td>
<td>Rat</td>
<td>200 - 300 mg/l, 8 Hours</td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
<td>8.8 mg/l, 4 Hours</td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Mouse</td>
<td>1150 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rabbit</td>
<td>1040 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>1230 - 3100 mg/kg</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Mouse</td>
<td>480 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>400 mg/kg</td>
</tr>
<tr>
<td>Components</td>
<td>Species</td>
<td>Test Results</td>
</tr>
<tr>
<td>------------</td>
<td>---------</td>
<td>--------------</td>
</tr>
<tr>
<td>Propylene glycol (CAS 57-55-6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td>Oral</td>
<td>Rat</td>
</tr>
<tr>
<td>Tylosin (CAS 1401-69-0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td>Oral</td>
<td>Rat</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**
Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation**
Causes serious eye irritation.

**Respiratory or skin sensitization**
- **Respiratory sensitization**: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- **Skin sensitization**: May cause an allergic skin reaction.
- **Germ cell mutagenicity**: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
- **Carcinogenicity**: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Not listed.

**Reproductive toxicity**
This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity**
- **single exposure**: Not classified.
- **repeated exposure**: Not classified.

**Aspiration hazard**
Not an aspiration hazard.

**Chronic effects**
Prolonged inhalation may be harmful. Possible hyper sensitization (development of abnormal sensitivity).

### 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.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol (CAS 57-55-6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td>Crustacea</td>
<td>LC50</td>
</tr>
<tr>
<td></td>
<td>Fish</td>
<td>LC50</td>
</tr>
</tbody>
</table>

**Persistence and degradability**
No data is available on the degradability of this product.

**Bioaccumulative potential**

<table>
<thead>
<tr>
<th>Partition coefficient n-octanol / water (log Kow)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol (CAS 100-51-6)</td>
<td>1.1</td>
</tr>
<tr>
<td>Propylene glycol (CAS 57-55-6)</td>
<td>-0.92</td>
</tr>
<tr>
<td>Tylosin (CAS 1401-69-0)</td>
<td>1.63</td>
</tr>
</tbody>
</table>

**Mobility in soil**
No data available.

**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. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations**
Dispose in accordance with all applicable regulations.

**Hazardous waste code**
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
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).

**Waste from residues / unused products**

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

**Contaminated packaging**

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).

**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.

  
  Not listed.

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

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**

- Immediate Hazard - Yes
- Delayed Hazard - Yes
- Fire Hazard - No
- Pressure Hazard - No
- Reactivity Hazard - No

- **SARA 302 Extremely hazardous substance**
  
  Not listed.

- **SARA 311/312 Hazardous chemical**
  
  Yes

- **SARA 313 (TRI reporting)**
  
  Not regulated.

**Other federal regulations**

- **Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**
  
  Not regulated.

- **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**
  
  Benzyl alcohol (CAS 100-51-6)

- **US. New Jersey Worker and Community Right-to-Know Act**
  
  Propylene glycol (CAS 57-55-6)

- **US. Pennsylvania Worker and Community Right-to-Know Law**
  
  Benzyl alcohol (CAS 100-51-6)
  Propylene glycol (CAS 57-55-6)

- **US. Rhode Island RTK**
  
  Not regulated.
US. California Proposition 65
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

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>No</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>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</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>No</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>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>No</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: 06-May-2015
Revision date: -
Version #: 01

Further information
Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling. HMIS® is a registered trade and service mark of the American Coatings Association (ACA).

HMIS® ratings
Health: 2*
Flammability: 1
Physical hazard: 0

NFPA ratings

![NFPA Rating](image)

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