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
Not for human use.

Manufacturer/Importer/Supplier/Distributor information
Boehringer Ingelheim Vetmedica, Inc.
Manufacturer
2621 North Belt Hwy
Address
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>Propane -1,2 -diol</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. 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.

Most important symptoms/effects, acute and delayed
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. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid breathing mist or vapor. Ensure adequate ventilation. 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.

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

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 foodstuffs. Store material between 2°C (36°F) and 8°C (46°F). Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>US. Workplace Environmental Exposure Level (WEEL) Guides Components</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>
</tr>
<tr>
<td></td>
<td></td>
<td>10 ppm</td>
</tr>
<tr>
<td>Propane -1,2 -diol (CAS 57-55-6)</td>
<td>TWA</td>
<td>10 mg/m3 Aerosol</td>
</tr>
</tbody>
</table>

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

Appropriate engineering controls
Good general ventilation 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.

Skin protection
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.

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. 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.
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>Rabbit</td>
<td>2000 mg/kg</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Rat</td>
<td>8.8 mg/l, 4 Hours</td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>1230 - 3100 mg/kg</td>
</tr>
<tr>
<td>Propane -1,2 -diol (CAS 57-55-6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>Rabbit</td>
<td>20800 mg/kg</td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>22000 mg/kg</td>
</tr>
<tr>
<td>Tylosin (CAS 1401-69-0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>&gt; 5000 mg/kg</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.
Causes serious eye irritation.

Serious eye damage/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.
- IARC Monographs. Overall Evaluation of Carcinogenicity
  Not listed.
- NTP Report on Carcinogens
  Not listed.
  Not regulated.

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

Specific target organ toxicity - single exposure
Not classified.

Specific target organ toxicity - 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.

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

Bioaccumulative potential
- Partition coefficient n-octanol / water (log Kow)
  - Benzyl alcohol (CAS 100-51-6) 1.1
  - Propane -1,2 -diol (CAS 57-55-6) -0.92
  - Tylosin (CAS 1401-69-0) 1.63

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.

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
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.

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

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
Yes

- Classified hazard categories
  - Serious eye damage or eye irritation
  - Respiratory or skin sensitization

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
Propane -1,2 -diol (CAS 57-55-6)

US. Pennsylvania Worker and Community Right-to-Know Law
Benzyl alcohol (CAS 100-51-6)
Propane -1,2 -diol (CAS 57-55-6)

US. Rhode Island RTK
Propane -1,2 -diol (CAS 57-55-6)

California Proposition 65
California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

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>
</tbody>
</table>
Country(s) or region | Inventory name | On inventory (yes/no) |
--- | --- | --- |
Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
Europe | European List of Notified Chemical Substances (ELINCS) | No |
Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
Korea | Existing Chemicals List (ECL) | Yes |
New Zealand | New Zealand Inventory | Yes |
Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
Taiwan | Taiwan Chemical Substance Inventory (TCSI) | Yes |
United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | No |

*"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**
28-June-2018

**Version #**
02

**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 ratings](image)

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