SAFETY DATA SHEET

1. Identification

Product identifier
Sheepguard® SE Oral Drench for Sheep with Selenium

Other means of identification
None.

Recommended use of the chemical and restrictions on use

Recommended use
Veterinary antiparasitic; anti-worm agent (anthelmintic)

Restrictions on use
Not for human use

Details of manufacturer or importer

Company Name (AU)
Zoetis Australia Pty Ltd
ABN 94 156 476 425
Level 6, 5 Rider Boulevard
Rhodes NSW 2138 AUSTRALIA

Tel
1800 814 883
Fax
(02) 8876 0444
Email
australia.animalhealth@zoetis.com
Emergency Phone
1800 814 883 (all hours)
Police and Fire Brigade
Dial 000
If ineffective
Dial Poisons Information Centre (13 1126 from anywhere in Australia)

2. Hazard(s) identification

Classification of the hazardous chemical

Physical hazards
Not classified.

Health hazards
Not classified.

Environmental hazards
Hazardous to the aquatic environment, acute hazard

Label elements, including precautionary statements

Hazard symbol(s)
Environment

Signal word
Warning

Hazard Statement(s)
Very toxic to aquatic life with long lasting effects.

Precautionary Statement(s)

Prevention
Avoid release to the environment.

Response
Collect spillage.

Storage
Store away from incompatible materials.

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

Other hazards which do not result in classification
None known.

Supplemental information
May cause eye irritation. May cause skin irritation.

3. Composition/information on ingredients

Mixture
Concentration of ingredients

<table>
<thead>
<tr>
<th>Identity of chemical ingredients</th>
<th>CAS number and other unique identifiers</th>
<th>Concentration of ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol</td>
<td>57-55-6</td>
<td>30-60</td>
</tr>
<tr>
<td>Benzyl alcohol</td>
<td>100-51-6</td>
<td>2 - 7</td>
</tr>
<tr>
<td>Butylated hydroxytoluene</td>
<td>128-37-0</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Moxidectin</td>
<td>113507-06-5</td>
<td>1 mg/ml</td>
</tr>
<tr>
<td>Sodium Selenate</td>
<td>13410-01-0</td>
<td>0.5 mg/ml</td>
</tr>
</tbody>
</table>

4. First-aid measures

Description of necessary 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 advice/attention if you feel unwell. Get medical attention if symptoms occur. If ingestion of a large amount does occur, call a poison control centre immediately. Never give anything by mouth to a victim who is unconscious or is having convulsions.

**Personal protection for first-aid responders**
For personal protection, see section 8 of the SDS. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**Symptoms caused by exposure**
Direct contact with eyes may cause temporary irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. Rash. Prolonged exposure may cause chronic effects. Behavioural changes. Decrease in motor functions.

**Medical attention and special treatment**
Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

5. Fire-fighting measures

**Extinguishing media**
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

**Suitable extinguishing media**
Do not use water jet as an extinguisher, as this will spread the fire.

**Unsuitable extinguishing media**
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.

**Hazchem Code**
None.

**General fire hazards**
No unusual fire or explosion hazards noted.

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

6. Accidental release measures

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

**For non-emergency personnel**
Keep unnecessary personnel away. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

**For emergency responders**
Use personal protection recommended in Section 8 of the SDS. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Ventilate the contaminated area. Do not breathe mist or vapour. Avoid contact with eyes, skin, and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

**Environmental precautions**
Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
Methods and materials for containment and cleaning up

Ensure adequate ventilation. Avoid release to the environment. Prevent product from entering drains. Prevent entry into waterways, sewer, basements or confined areas. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area).

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Clean surface thoroughly to remove residual contamination.

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.

7. Handling and storage

Precautions for safe handling

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Observe good industrial hygiene practices. Use this product with adequate ventilation. Do not breathe mist or vapour. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Avoid release to the environment. When using, do not eat, drink or smoke. Wash thoroughly after handling. Wear appropriate personal protective equipment.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in a well-ventilated place. Protect from sunlight. Keep away from heat, sparks and open flame. Keep away from food, drink and animal feeding stuffs. Keep out of the reach of children. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls and personal protection

Control parameters

Follow standard monitoring procedures.

Occupational exposure limits

Zoetis Components

<table>
<thead>
<tr>
<th>Value Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moxidectin (CAS 113507-06-5)</td>
<td>TWA</td>
<td>70 µg/m3</td>
</tr>
</tbody>
</table>

Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butylated hydroxytoluene (CAS 128-37-0)</td>
<td>TWA</td>
<td>10 mg/m3</td>
<td>Total vapour and particulates.</td>
</tr>
<tr>
<td>Propylene glycol (CAS 57-55-6)</td>
<td>TWA</td>
<td>474 mg/m3</td>
<td>Particulate.</td>
</tr>
<tr>
<td>Sodium Selenate (CAS 13410-01-0)</td>
<td>TWA</td>
<td>0.1 mg/m3</td>
<td>Total vapour and particulates.</td>
</tr>
</tbody>
</table>

Australia, OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butylated hydroxytoluene (CAS 128-37-0)</td>
<td>TWA</td>
<td>10 mg/m3</td>
<td>Total vapour and particulates.</td>
</tr>
<tr>
<td>Propylene glycol (CAS 57-55-6)</td>
<td>TWA</td>
<td>474 mg/m3</td>
<td>Particulate.</td>
</tr>
<tr>
<td>Sodium Selenate (CAS 13410-01-0)</td>
<td>TWA</td>
<td>0.1 mg/m3</td>
<td>Total vapour and particulates.</td>
</tr>
</tbody>
</table>

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butylated hydroxytoluene (CAS 128-37-0)</td>
<td>TWA</td>
<td>2 mg/m3</td>
<td>Inhalable fraction and vapor.</td>
</tr>
<tr>
<td>Sodium Selenate (CAS 13410-01-0)</td>
<td>TWA</td>
<td>0.2 mg/m3</td>
<td></td>
</tr>
</tbody>
</table>

Material name: Sheepguard® SE Oral Drench for Sheep with Selenium
**UK. EH40 Workplace Exposure Limits (WELs)**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butylated hydroxytoluene (CAS 128-37-0)</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Total vapour and particulates.</td>
</tr>
<tr>
<td>Propylene glycol (CAS 57-55-6)</td>
<td>TWA</td>
<td>474 mg/m³</td>
<td>Particulate.</td>
</tr>
<tr>
<td>Sodium Selenate (CAS 13410-01-0)</td>
<td>TWA</td>
<td>0.1 mg/m³</td>
<td>Total vapour and particulates.</td>
</tr>
</tbody>
</table>

**Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butylated hydroxytoluene (CAS 128-37-0)</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Vapor and aerosol, inhalable fraction.</td>
</tr>
<tr>
<td>Sodium Selenate (CAS 13410-01-0)</td>
<td>TWA</td>
<td>0.02 mg/m³</td>
<td>Inhalable fraction.</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.

**Individual protection measures, for example personal protective equipment (PPE)**

- **Eye/face protection**: Wear safety glasses with side shields (or goggles).
- **Skin protection**: Wear appropriate chemical resistant gloves. Rubber gloves. Polyvinyl chloride (PVC).
- **Hand protection**: Wear suitable protective clothing. Use protective clothing (uniforms, lab coats, disposable coveralls, etc.) in both production and laboratory areas.
- **Respiratory protection**: No personal respiratory protective equipment normally required. Respiratory protection should be provided in instances where exposure to dust, mists, aerosols or vapors are likely. If the applicable Occupational Exposure Limit (OEL) is exceeded, wear an appropriate respirator with a protection factor sufficient to control exposures to below the OEL.
- **Respiratory protection**: Wear appropriate thermal protective clothing, when necessary.
- **Hygiene measures**: 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**: Liquid.
- **Colour**: Clear, colorless to pale yellow
- **Odour**: Aromatic.
- **Odour threshold**: Not available.
- **pH**: Not available.
- **Melting point/freezing point**: 0 °C (32 °F)
- **Initial boiling point and boiling range**: 100 °C (212 °F)
- **Flash point**: Not available.
- **Evaporation rate**: Not available.
- **Flammability (solid, gas)**: Not applicable.
- **Upper/lower flammability or explosive limits**: Not available.
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability limit - upper (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive limit - lower (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive limit – upper (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>2.37 kPa (@ 20°C)</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Soluble</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other physical and chemical parameters</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not oxidising.</td>
</tr>
</tbody>
</table>

### 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**

**Incompatible materials**
Strong oxidising agents.

**Hazardous decomposition products**
Irritating and/or toxic fumes and gases may be emitted upon the products decomposition. Carbon oxides. Nitrogen oxides (NOx). Selenium.

### 11. Toxicological information

**Information on possible routes of exposure**

**Inhalation**
Prolonged inhalation may be harmful.

**Skin contact**
Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

- Benzyl alcohol
  - Species: Guinea Pig
  - Severity: Moderate

- Moxidectin
  - Species: Rabbit
  - Severity: Moderate

- Propylene glycol
  - Species: Rabbit
  - Severity: Mild

- Benzyl alcohol
  - Species: Rabbit
  - Severity: Minimal

- Butylated hydroxytoluene
  - Species: Rabbit
  - Severity: Moderate

**Eye contact**
Direct contact with eyes may cause temporary irritation.

- Propylene glycol
  - Species: Rabbit
  - Severity: Mild

- Butylated hydroxytoluene
  - Species: Rabbit
  - Severity: Moderate

- Moxidectin
  - Species: Rabbit
  - Severity: Moderate
Eye contact
Benzyl alcohol
Species: Rabbit
Severity: Severe

Ingestion
May be harmful if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms related to exposure
Direct contact with eyes may cause temporary irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Rash. Prolonged exposure may cause chronic effects. Behavioural changes. Decrease in motor functions.

Acute toxicity

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheepguard® SE Oral Drench for Sheep with Selenium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td>&gt; 10000 mg/kg (Calculated ATE)</td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td>&gt; 10000 mg/kg (Calculated ATE)</td>
</tr>
<tr>
<td>Components</td>
<td></td>
<td></td>
</tr>
<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>&gt; 4.178 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1000 mg/l, 8 Hours</td>
</tr>
<tr>
<td>Oral</td>
<td>Mouse</td>
<td>1580 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>1230 mg/kg</td>
</tr>
<tr>
<td>Butylated hydroxytoluene (CAS 128-37-0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intraperitoneal</td>
<td>Mouse</td>
<td>138 mg/kg</td>
</tr>
<tr>
<td>Oral</td>
<td>Mouse</td>
<td>650 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>1700 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>890 mg/kg</td>
</tr>
<tr>
<td>Chronic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Mouse</td>
<td>2000 mg/kg, 4 days Liver Kidney Ureter Bladder</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>5185 mg/kg, 4 weeks Liver</td>
</tr>
<tr>
<td>Moxidectin (CAS 113507-06-5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>Rat</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>106 mg/kg</td>
</tr>
<tr>
<td>Chronic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Mouse</td>
<td>30 mg/kg/day, 2 years (Not carcinogenic)</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>100 mg/kg/day, 2 years (Not carcinogenic)</td>
</tr>
<tr>
<td>Component</td>
<td>Species</td>
<td>Test results</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td>Rat</td>
<td>100 mg/kg/day, 28 days (Central Nervous System)</td>
</tr>
<tr>
<td><strong>LOEL</strong></td>
<td>Rat</td>
<td>75 mg/kg/day, 28 days (Central nervous system)</td>
</tr>
<tr>
<td><strong>NOEL</strong></td>
<td>Mouse</td>
<td></td>
</tr>
<tr>
<td><strong>Subchronic</strong></td>
<td>Dog</td>
<td>10 mg/kg/day, 90 days (Central Nervous System)</td>
</tr>
<tr>
<td><strong>NOEL</strong></td>
<td>Rat</td>
<td>50 mg/kg/day, 13 weeks (Central Nervous System)</td>
</tr>
<tr>
<td><strong>Propylene glycol (CAS 57-55-6)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td>Rabbit</td>
<td>20800 mg/kg</td>
</tr>
<tr>
<td><strong>LD50</strong></td>
<td>Mouse</td>
<td>24900 mg/kg</td>
</tr>
<tr>
<td><strong>Rat</strong></td>
<td></td>
<td>22000 mg/kg</td>
</tr>
<tr>
<td><strong>Skin corrosion/irritation</strong></td>
<td></td>
<td>Prolonged skin contact may cause temporary irritation.</td>
</tr>
<tr>
<td><strong>Corrosivity</strong></td>
<td>Rabbit</td>
<td>Species: Rabbit</td>
</tr>
<tr>
<td><strong>Severity</strong></td>
<td>Mild</td>
<td></td>
</tr>
<tr>
<td><strong>Serious eye damage/irritation</strong></td>
<td></td>
<td>Direct contact with eyes may cause temporary irritation.</td>
</tr>
<tr>
<td><strong>Eye contact</strong></td>
<td>Rabbit</td>
<td>Species: Rabbit</td>
</tr>
<tr>
<td><strong>Propylene glycol</strong></td>
<td>Mild</td>
<td>Severity: Mild</td>
</tr>
<tr>
<td><strong>Butylated hydroxytoluene</strong></td>
<td>Mild</td>
<td>Severity: Moderate</td>
</tr>
<tr>
<td><strong>Moxidectin</strong></td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td><strong>Benzyl alcohol</strong></td>
<td>Severe</td>
<td></td>
</tr>
<tr>
<td><strong>Respiratory or skin sensitisation</strong></td>
<td></td>
<td>No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.</td>
</tr>
<tr>
<td><strong>Respiratory sensitisation</strong></td>
<td></td>
<td>Not a respiratory sensitizer.</td>
</tr>
<tr>
<td><strong>Skin sensitisation</strong></td>
<td></td>
<td>This product is not expected to cause skin sensitisation.</td>
</tr>
<tr>
<td><strong>Skin sensitisation</strong></td>
<td>Guinea Pig</td>
<td>Species: Guinea Pig</td>
</tr>
<tr>
<td><strong>Moxidectin</strong></td>
<td>negative</td>
<td>Severity: negative</td>
</tr>
<tr>
<td><strong>Mutagenicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Moxidectin</strong></td>
<td></td>
<td>In Vitro Bacterial Mutagenicity (Ames)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Result: negative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Species: Salmonella, E. coli</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In Vitro HGPRT Forward Gene Mutation Assay</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Result: negative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Species: Chinese Hamster Ovary (CHO) cells</td>
</tr>
</tbody>
</table>
Mutagenicity

Moxidectin

In Vivo Cytogenetics
Result: negative
Species: Rat Bone Marrow

In Vivo Unscheduled DNA Synthesis
Result: negative
Species: Rat Hepatocyte

Carcinogenicity

Due to partial or complete lack of data the classification is not possible.

ACGIH Carcinogens
Butylated hydroxytoluene (CAS 128-37-0) A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity
Butylated hydroxytoluene (CAS 128-37-0) 3 Not classifiable as to carcinogenicity to humans.
Sodium Selenate (CAS 13410-01-0) 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity

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

Developmental effects

Moxidectin
1 mg/kg/day Embryo / Fetal Development, (Maternal toxicity, Not teratogenic)
Result: NOEL
Species: Rabbit
Organ: Oral route

5 mg/kg/day Embryo / Fetal Development, (Negative)
Result: NOEL
Species: Rat
Organ: Oral route

5 mg/kg/day Embryo / Fetal Development, (Not Teratogenic, Embryotoxicity, Maternal Toxicity)
Result: NOEL
Species: Rat
Organ: Oral route

Butylated hydroxytoluene
6 g/kg Embryo / Fetal Development, teratogenic
Result: LOEL
Species: Rat
Organ: Oral

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.

12. Ecological information

Ecotoxicity
Avoid release to the environment. Very toxic to aquatic life with long lasting effects.

<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>EC50</td>
<td>Daphnia magna (Water Flea)</td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td>LC50</td>
<td>Pseudokirchneriella subcapitata (Green Alga)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pimephales promelas (Fathead Minnow)</td>
</tr>
</tbody>
</table>

Aquatic

Fish | LC50 | Bluegill (Lepomis macrochirus) | 10 mg/l, 96 hours |
**Components Test results Species**

**Butylated hydroxytoluene (CAS 128-37-0)**
- **Aquatic**
  - Crustacea EC50 Water flea (Daphnia pulex) 1.44 mg/l, 48 hours

**Moxidectin (CAS 113507-06-5)**
- EC50 Daphnia Magna (Water Flea) 30 ppt, 48 Hours
- Selenastrum capricornutum (Green Alga) > 87 ppb, 72 Hours
- LC50 Lepomis macrochirus (Bluegill Sunfish) 0.62 ppb, 96 Hours
  - Oncorhynchus mykiss (Rainbow Trout) 0.16 ppb, 96 Hours

**Propylene glycol (CAS 57-55-6)**
- **Aquatic**
  - Crustacea EC50 Water flea (Daphnia magna) > 10000 mg/l, 48 hours
  - Fish LC50 Fathead minnow (Pimephales promelas) 710 mg/l, 96 hours

**Sodium Selenate (CAS 13410-01-0)**
- **Aquatic**
  - Crustacea EC50 Scud (Gammarus pseudolimnaeus) 0.068 - 0.101 mg/l, 48 hours
  - Fish LC50 Razorback sucker (Xyrauchen texanus) 9.6 - 18 mg/l, 96 hours

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

**Bioaccumulative potential**
- **Partition coefficient n-octanol / water (log Kow)**
  - Moxidectin 8.74, (Log D @pH 7) Estimated

**Mobility in soil**
No data available for this product.

**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 methods**
Avoid release to the environment. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Residual waste**
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**

**ADG**
Not regulated as dangerous goods.

**RID**
- UN number 3082
- UN proper shipping name Environmentally hazardous substance, liquid, n.o.s. (Moxidectin, Benzyl alcohol)
- Transport hazard class(es)
  - Class 9
  - Subsidiary risk -
  - Label(s) 9
  - Packing group III
  - Environmental hazards Yes
- Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
IATA

UN number: 3082
UN proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Moxidectin, Benzyl Alcohol)
Transport hazard class(es):
  Class: 9
  Subsidiary risk: -
  Packing group: III
  Environmental hazards: Yes
  ERG Code: 9L
Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.
Other information:
  Passenger and cargo aircraft: Allowed with restrictions.
  Cargo aircraft only: Allowed with restrictions.

IMDG

UN number: 3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Moxidectin, Benzyl Alcohol), MARINE POLLUTANT
Transport hazard class(es):
  Class: 9
  Subsidiary risk: -
  Packing group: III
Environmental hazards: Marine pollutant
  Yes
EmS: F-A, S-F
Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.
Not established.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

General information: IMDG Regulated Marine Pollutant. As of January 1, 2015, materials offered for transport that are classified for transportation only as Marine Pollutants and which are packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 Liters or less for liquids or having a net mass per single or inner packaging of 5 kilograms or less for solids are NOT subject to ICAO/IATA, IMDG, or ADR transport regulations provided the general packaging requirements of those regulations are met. Refer to ICAO/IATA A197, IMDG 2.10.2.7, ADR SP 375.
15. Regulatory information

Safety, health and environmental regulations

National regulations
This Safety Data Sheet was prepared in accordance with Australia Model Code of Practice for the preparation of Safety Data Sheets for Hazardous Chemicals (23/12/2011).

APVMA Registration No: 65367
Poison Schedule (Product): Schedule 6
This SDS replaces version: issued November 2014

Australia Medicines & Poisons Appendix B
- Propylene glycol (CAS 57-55-6)

Australia Medicines & Poisons Appendix E
- SELENIUM COMPOUNDS (CAS 13410-01-0)

Australia Medicines & Poisons Appendix F
- SELENIUM COMPOUNDS (CAS 13410-01-0)

Australia Medicines & Poisons Appendix G
- Selenium (CAS 13410-01-0)

Australia Medicines & Poisons Appendix I
- SELENIUM OR SELENIUM COMPOUNDS (CAS 13410-01-0)

Australia Medicines & Poisons Schedule 4
- MOXIDECTIN (CONC<=10%) (CAS 113507-06-5)

Australia Medicines & Poisons Schedule 5
- MOXIDECTIN (CONC<=2.5%) (CAS 113507-06-5)

Australia Medicines & Poisons Schedule 6
- MOXIDECTIN (CONC<=2.5%) (CAS 113507-06-5)
- SELENIUM (CONC<=2%) (CAS 13410-01-0)

Australia Medicines & Poisons Schedule 7
- MOXIDECTIN (CAS 113507-06-5)
- Selenium (CAS 13410-01-0)

Australia National Pollutant Inventory (NPI): Threshold quantity
- Sodium Selenate (CAS 13410-01-0) 10 TONNES/YR Threshold Category: 1

High Volume Industrial Chemicals (HVIC)
- Benzyl alcohol (CAS 100-51-6) 10000 - 99999 TONNES See the regulation for additional information.
- Propylene glycol (CAS 57-55-6) 10000 - 99999 TONNES See the regulation for additional information.

Importation of Ozone Deleting Substances (Customs(Prohibited imports) Regulations 1956, Schedule 10)
- Not listed.

National Pollutant Inventory (NPI) substance reporting list
- Not listed.

Prohibited Carcinogenic Substances
- Not regulated.

Prohibited Substances (National Model Regulation for the control of Workplace Hazardous Substances, Schedule 2 NOHSC:1005 (1994) as amended)
- Not listed.

Restricted Importation of Organochlorine Chemicals (Customs(Prohibited Imports) Regulations 1956, Schedule 9)
- Not listed.

Restricted Carcinogenic Substances
- Not regulated.

International regulations

Stockholm Convention
- Not applicable.

Rotterdam Convention
- Not applicable.

Kyoto protocol
- Not applicable.
Montreal Protocol  
Not applicable.

Basel Convention  
Not applicable.

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>No</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>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>No</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>No</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>No</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>No</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 that all components of this product comply 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

Issue date  
15-December-2016

Key abbreviations or acronyms used  
ATE: Acute Toxicity Estimate according to REGULATION (EC) No 1272/2008 (CLP).

Disclaimer  
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