# 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

**Product Identifier**
- **Material Name:** Moxidectin and Praziquantel Oral Gel
- **Trade Name:** QUEST®
- **Synonyms:** QUEST® PLUS GEL, QUEST® PLUS (moxidectin/praziquantel) Equine Oral Gel
- **Chemical Family:** Macrocyclic lactone

**Relevant Identified Uses of the Substance or Mixture and Uses Advised Against**
- **Intended Use:** Veterinary product used as anti-worm agent (anthelmintic)
- **Restrictions on Use:** Not for human use

**Details of the Supplier of the Safety Data Sheet**

<table>
<thead>
<tr>
<th>Zoetis Inc.</th>
<th>Zoetis Belgium S.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 Campus Drive, P.O. Box 651</td>
<td>Mercuriusstraat 20</td>
</tr>
<tr>
<td>Florham Park, New Jersey 07932 (USA)</td>
<td>1930 Zaventem</td>
</tr>
<tr>
<td>Rocky Mountain Poison Control Center Phone: 1-866-531-8896</td>
<td>Belgium</td>
</tr>
<tr>
<td>Product Support/Technical Services Phone: 1-800-366-5288</td>
<td></td>
</tr>
</tbody>
</table>

**Emergency telephone number:**
- CHEMTREC (24 hours): 1-800-424-8300
- International CHEMTREC (24 hours): +1-703-527-3887

**Contact E-Mail:** VMIPSrecords@zoetis.com

# 2. HAZARDS IDENTIFICATION

**Appearance:** Pale yellow to orange pink gel

**Classification of the Substance or Mixture**

<table>
<thead>
<tr>
<th>GHS - Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute aquatic toxicity: Category 1</td>
</tr>
<tr>
<td>Chronic aquatic toxicity: Category 1</td>
</tr>
</tbody>
</table>

**EU Classification:**
- **EU Indication of danger:** Dangerous for the Environment
- **EU Symbol:** N
- **EU Risk Phrases:** R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Label Elements**
- **Signal Word:** Warning
- **Hazard Statements:** H410 - Very toxic to aquatic life with long lasting effects
- **Precautionary Statements:** P273 - Avoid release to the environment
- P391 - Collect spillage
- P501 - Dispose of contents/container in accordance with all local and national regulations
Other Hazards
Short Term: May be harmful if swallowed. May cause eye irritation. May cause slight skin irritation. (based on components).

Known Clinical Effects: Adverse effects associated with therapeutic use include clumsy motion of limbs/trunk (ataxia), drowsiness, depression, and salivation.


Note: This document has been prepared in accordance with standards for workplace safety, which requires the inclusion of all known hazards of the product or its ingredients regardless of the potential risk. The precautionary statements and warning included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Ingredient</th>
<th>CAS Number</th>
<th>EU EINECS/ELINCS List</th>
<th>EU Classification</th>
<th>GHS Classification</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Praziquantel</td>
<td>55268-74-1</td>
<td>259-559-6</td>
<td>Not Listed</td>
<td>Acute Tox 5 (H303)</td>
<td>12.5</td>
</tr>
<tr>
<td>Ethyl alcohol (ethanol)</td>
<td>64-17-5</td>
<td>200-578-6</td>
<td>F; R11</td>
<td>Flam. Liq. 2 (H225)</td>
<td>5</td>
</tr>
<tr>
<td>Benzyl Alcohol</td>
<td>100-51-6</td>
<td>202-859-9</td>
<td>Xn; R20/22</td>
<td>Acute Tox.4 (H302)</td>
<td>&lt;4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Acute Tox.4 (H332)</td>
<td></td>
</tr>
<tr>
<td>Moxidectin</td>
<td>113507-06-5</td>
<td>Not Listed</td>
<td>T;R25</td>
<td>Eye Irrit. 2A (H319)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Xi;R36</td>
<td>Skin Irrit. 3 (H316)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>N;R50/53</td>
<td>Aquatic Acute 1 (H400)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 1 (H410)</td>
<td></td>
</tr>
<tr>
<td>Butylated hydroxytoluene</td>
<td>128-37-0</td>
<td>204-881-4</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>&lt;0.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>EU EINECS/ELINCS List</th>
<th>EU Classification</th>
<th>GHS Classification</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2% polysorbate 80</td>
<td>Proprietary</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>*</td>
</tr>
<tr>
<td>Colloidal silicon dioxide</td>
<td>7631-86-9</td>
<td>231-545-4</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>*</td>
</tr>
<tr>
<td>Ethyliccellulose</td>
<td>9004-57-3</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>*</td>
</tr>
<tr>
<td>Propylene glycol dicaprylate-caprate</td>
<td>68583-51-7</td>
<td>271-516-3</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>*</td>
</tr>
</tbody>
</table>

Additional Information: * Proprietary
Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety.

For the full text of the R phrases and CLP/GHS abbreviations mentioned in this Section, see Section 16
4. FIRST AID MEASURES

Description of First Aid Measures

Eye Contact: Flush with water while holding eyelids open for at least 15 minutes. Seek medical attention immediately.

Skin Contact: Remove contaminated clothing. Flush area with large amounts of water. Use soap. Seek medical attention.

Ingestion: Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately.

Inhalation: Remove to fresh air and keep patient at rest. Seek medical attention immediately.

Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms and Effects of Exposure: For information on potential signs and symptoms of exposure, see Section 2 - Hazards Identification and/or Section 11 - Toxicological Information.

Medical Conditions Aggravated by Exposure: None known

Indication of the Immediate Medical Attention and Special Treatment Needed

Notes to Physician: None

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Extinguish fires with CO2, extinguishing powder, foam, or water.

Special Hazards Arising from the Substance or Mixture

Hazardous Combustion: Formation of toxic gases is possible during heating or fire.

Products: Fine particles (such as dust and mists) may fuel fires/explosions.

Advice for Fire-Fighters

During all fire fighting activities, wear appropriate protective equipment, including self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure.

Environmental Precautions

Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.

Methods and Material for Containment and Cleaning Up

Measures for Cleaning / Collecting: Contain the source of spill if it is safe to do so. Collect spill with absorbent material. Clean spill area thoroughly.

Additional Consideration for Large Spills: Non-essential personnel should be evacuated from affected area. Report emergency situations immediately. Clean up operations should only be undertaken by trained personnel.

7. HANDLING AND STORAGE

Precautions for Safe Handling
7. HANDLING AND STORAGE

When handling, use appropriate personal protective equipment (see Section 8). Use with adequate ventilation. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Wash hands and any exposed skin after removal of PPE. Refer to Section 12 - Ecological Information, for information on potential effects on the environment. Releases to the environment should be avoided. Review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure or environmental releases. Potential points of process emissions of this material to the atmosphere should be controlled with dust collectors, HEPA filtration systems or other equivalent controls.

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions: Store as directed by product packaging.

Specific end use(s): No data available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

Refer to available public information for specific member state Occupational Exposure Limits.

Ethyl alcohol (ethanol)

<table>
<thead>
<tr>
<th>Organization</th>
<th>Control Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH Threshold Limit Value (STEL)</td>
<td></td>
<td>1000 ppm</td>
</tr>
<tr>
<td>Australia TWA</td>
<td></td>
<td>1000 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1880 mg/m³</td>
</tr>
<tr>
<td>Austria OEL - MAKs</td>
<td></td>
<td>1000 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1900 mg/m³</td>
</tr>
<tr>
<td>Belgium OEL - TWA</td>
<td></td>
<td>1000 ppm</td>
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<tr>
<td></td>
<td></td>
<td>1907 mg/m³</td>
</tr>
<tr>
<td>Bulgaria OEL - TWA</td>
<td></td>
<td>1000.0 mg/m³</td>
</tr>
<tr>
<td>Czech Republic OEL - TWA</td>
<td></td>
<td>1000 mg/m³</td>
</tr>
<tr>
<td>Denmark OEL - TWA</td>
<td></td>
<td>1000 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1900 mg/m³</td>
</tr>
<tr>
<td>Estonia OEL - TWA</td>
<td></td>
<td>500 ppm</td>
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<tr>
<td></td>
<td></td>
<td>1000 mg/m³</td>
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<tr>
<td>Finland OEL - TWA</td>
<td></td>
<td>1000 ppm</td>
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<tr>
<td></td>
<td></td>
<td>1900 mg/m³</td>
</tr>
<tr>
<td>France OEL - TWA</td>
<td></td>
<td>1000 ppm</td>
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<tr>
<td></td>
<td></td>
<td>1900 mg/m³</td>
</tr>
<tr>
<td>Germany - TRGS 900 - TWAs</td>
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<td>500 ppm</td>
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<tr>
<td></td>
<td></td>
<td>960 mg/m³</td>
</tr>
<tr>
<td>Germany (DFG) - MAK</td>
<td></td>
<td>500 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>960 mg/m³</td>
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<tr>
<td>Greece OEL - TWA</td>
<td></td>
<td>1000 ppm</td>
</tr>
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<td></td>
<td></td>
<td>1900 mg/m³</td>
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<tr>
<td>Hungary OEL - TWA</td>
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<td>1900 mg/m³</td>
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<tr>
<td>Latvia OEL - TWA</td>
<td></td>
<td>1000 mg/m³</td>
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<tr>
<td>Lithuania OEL - TWA</td>
<td></td>
<td>500 ppm</td>
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<td></td>
<td></td>
<td>1000 mg/m³</td>
</tr>
<tr>
<td>Netherlands OEL - TWA</td>
<td></td>
<td>260 mg/m³</td>
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<td></td>
<td>1000 mg/m³</td>
</tr>
<tr>
<td>OSHA - Final PELS - TWAs:</td>
<td></td>
<td>1000 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1900 mg/m³</td>
</tr>
<tr>
<td>Poland OEL - TWA</td>
<td></td>
<td>1900 mg/m³</td>
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<tr>
<td>Portugal OEL - TWA</td>
<td></td>
<td>1000 ppm</td>
</tr>
<tr>
<td>Romania OEL - TWA</td>
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<td>1000 ppm</td>
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<td></td>
<td></td>
<td>1900 mg/m³</td>
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<tr>
<td>Slovakia OEL - TWA</td>
<td></td>
<td>500 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>960 mg/m³</td>
</tr>
</tbody>
</table>
### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Material</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slovenia OEL - TWA</td>
<td>1000 ppm</td>
</tr>
<tr>
<td></td>
<td>1900 mg/m³</td>
</tr>
<tr>
<td>Spain OEL - TWA</td>
<td>1000 ppm</td>
</tr>
<tr>
<td></td>
<td>1910 mg/m³</td>
</tr>
<tr>
<td>Sweden OEL - TWAs</td>
<td>500 ppm</td>
</tr>
<tr>
<td></td>
<td>1000 mg/m³</td>
</tr>
<tr>
<td>Switzerland OEL - TWAs</td>
<td>500 ppm</td>
</tr>
<tr>
<td></td>
<td>960 mg/m³</td>
</tr>
</tbody>
</table>

**Benzyl Alcohol**

<table>
<thead>
<tr>
<th>Location</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgaria OEL - TWA</td>
<td>5.0 mg/m³</td>
</tr>
<tr>
<td>Czech Republic OEL - TWA</td>
<td>40 mg/m³</td>
</tr>
<tr>
<td>Finland OEL - TWA</td>
<td>10 ppm</td>
</tr>
<tr>
<td></td>
<td>45 mg/m³</td>
</tr>
<tr>
<td>Latvia OEL - TWA</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>Lithuania OEL - TWA</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>Poland OEL - TWA</td>
<td>240 mg/m³</td>
</tr>
</tbody>
</table>

**Moxidectin**

<table>
<thead>
<tr>
<th>Location</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zoetis OEL TWA 8-hr</td>
<td>70 µg/m³</td>
</tr>
</tbody>
</table>

**Butylated hydroxytoluene**

<table>
<thead>
<tr>
<th>Location</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH Threshold Limit Value (TWA)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Australia TWA</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Austria OEL - MAKs</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Belgium OEL - TWA</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Bulgaria OEL - TWA</td>
<td>10.0 mg/m³</td>
</tr>
<tr>
<td>Denmark OEL - TWA</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Finland OEL - TWA</td>
<td>10 mg/m³</td>
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<tr>
<td>France OEL - TWA</td>
<td>10 mg/m³</td>
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<tr>
<td>Germany - TRGS 900 - TWAs</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Germany (DFG) - MAK</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Greece OEL - TWA</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Ireland OEL - TWAs</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Portugal OEL - TWA</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Slovenia OEL - TWA</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Switzerland OEL - TWAs</td>
<td>10 mg/m³</td>
</tr>
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</table>

**Colloidal silicon dioxide**

<table>
<thead>
<tr>
<th>Location</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia TWA</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Austria OEL - MAKs</td>
<td>4 mg/m³</td>
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<tr>
<td></td>
<td>0.3 mg/m³</td>
</tr>
<tr>
<td>Czech Republic OEL - TWA</td>
<td>0.1 mg/m³</td>
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<tr>
<td></td>
<td>4.0 mg/m³</td>
</tr>
<tr>
<td>Estonia OEL - TWA</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Finland OEL - TWA</td>
<td>5 mg/m³</td>
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<tr>
<td>Germany - TRGS 900 - TWAs</td>
<td>4 mg/m³</td>
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<td>Germany (DFG) - MAK</td>
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<td>Ireland OEL - TWAs</td>
<td>6 mg/m³</td>
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<td></td>
<td>2.4 mg/m³</td>
</tr>
<tr>
<td>Latvia OEL - TWA</td>
<td>1 mg/m³</td>
</tr>
</tbody>
</table>
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

The purpose of the Occupational Exposure Band (OEB) classification system is to separate substances into different Hazard categories when the available data are sufficient to do so, but inadequate to establish an Occupational Exposure Limit (OEL). The OEB given is based upon an analysis of all currently available data; as such, this value may be subject to revision when new information becomes available.

Exposure Controls

Engineering Controls: Engineering controls should be used as the primary means to control exposures. General room ventilation is adequate unless the process generates dust, mist or fumes. Keep air contamination levels below the exposure limits or within the OEB range listed above in this section.

Personal Protective Equipment:

Hands: Impervious gloves are recommended if skin contact with drug product is possible and for bulk processing operations.

Eyes: Wear safety glasses or goggles if eye contact is possible.

Skin: Impervious protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations.

Respiratory protection: 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. If airborne exposures are within or exceed the Occupational Exposure Band (OEB) range, wear an appropriate respirator with a protection factor sufficient to control exposures to the bottom of the OEB range.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Gel

Odor: No data available.

Molecular Formula: Mixture

Solvent Solubility: No data available

Water Solubility: No data available

pH: No data available.

Melting/Freezing Point (°C): No data available

Boiling Point (°C): No data available

Partition Coefficient: (Method, pH, Endpoint, Value) No data available

Moxidectin

Predicted Log D 8.74

Evaporation Rate (Gram/s): No data available

Vapor Pressure (kPa): No data available

Vapor Density (g/ml): No data available

Material Name: Moxidectin and Praziquantel Oral Gel

PZ01578
Relative Density: No data available
Viscosity: No data available

1. STABILITY AND REACTIVITY

Reactivity: No data available
Chemical Stability: Stable under normal conditions of use.
Possibility of Hazardous Reactions
Oxidizing Properties: Non-oxidizing
Conditions to Avoid: Fine particles (such as dust and mists) may fuel fires/explosions.
Incompatible Materials: As a precautionary measure, keep away from strong oxidizers
Hazardous Decomposition Products: No data available

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects
General Information: Toxicological properties of the formulation have not been investigated. The information in this section describes the potential hazards of the individual ingredients and the formulation.
Routes of exposure: eye contact, skin contact

Acute Toxicity: (Species, Route, End Point, Dose)

Moxidectin
- Rat Oral LD50 106 mg/kg
- Rat Dermal LD50 > 2000mg/kg

2% polysorbate 80
- Rat Intravenous LD50 1790 mg/kg
- Mouse Oral LD50 25g/kg

Ethyl alcohol (ethanol)
- Mouse Oral LD50 3450 mg/kg
- Rat Oral LD50 7060mg/kg
- Rat Inhalation LC50 10h 20,000ppm

Praziquantel
- Rat Oral LD50 2840 mg/kg

Benzyl Alcohol
- Rat Oral LD50 1230 mg/kg
- Rat Para-periosteal LD50 53mg/kg
- Rat Inhalation LC50 >4.178mg/L
11. TOXICOLOGICAL INFORMATION

**Butylated hydroxytoluene**
- Rat  Oral  LD50  1700 mg/kg
- Mouse  Oral  LD50  650 mg/kg
- Rat  Oral  LD50  890 mg/kg
- Mouse  Intraperitoneal  LD 50  138 mg/kg

**Acute Toxicity Comments:** A greater than symbol (>) indicates that the toxicity endpoint being tested was not achievable at the highest dose used in the test.

**Irritation / Sensitization: (Study Type, Species, Severity)**

**Moxidectin**
- Eye Irritation  Rabbit  Moderate
- Skin Irritation  Rabbit  Mild
- Skin Sensitization - Beuhler  Guinea Pig  Negative

**Ethyl alcohol (ethanol)**
- Eye Irritation  Rabbit  Severe
- Skin Irritation  Rabbit  Mild

**Benzyl Alcohol**
- Eye Irritation  Rabbit  Severe
- Skin Irritation  Rabbit  Minimal
- Skin Irritation  Guinea Pig  Moderate

**Butylated hydroxytoluene**
- Eye Irritation  Rabbit  Moderate
- Skin Irritation  Rabbit  Moderate

**Repeated Dose Toxicity: (Duration, Species, Route, Dose, End Point, Target Organ)**

**Moxidectin**
- 28 Day(s)  Mouse  Oral  75 mg/kg/day  NOEL  Central nervous system
- 28 Day(s)  Rat  Oral  100 mg/kg/day  LOEL  Central Nervous System
- 13 Week(s)  Rat  Oral  50 mg/kg/day  NOEL  Central Nervous System
- 90 Day(s)  Dog  Oral  10 mg/kg/day  NOEL  Central Nervous System

**Butylated hydroxytoluene**
- 4 Week(s)  Rat  Oral  5185 mg/kg  LOAEL  Liver
- 4 Day(s)  Mouse  Oral  2000 mg/kg  LOAEL  Liver, Kidney, Ureter, Bladder

**Reproduction & Developmental Toxicity: (Study Type, Species, Route, Dose, End Point, Effect(s))**

**Moxidectin**
- Embryo / Fetal Development  Rabbit  Oral  1 mg/kg bw/day  NOEL  Maternal toxicity, Not teratogenic
- Embryo / Fetal Development  Rat  Oral  5 mg/kg/day  NOEL  Negative
- Embryo / Fetal Development  Rat  Oral  5 mg/kg bw/day  NOEL  Not Teratogenic, Embryotoxicity, Maternal Toxicity

**Praziquantel**
- Prenatal & Postnatal Development  Rat  No route specified  300 mg/kg/day  NOEL  Not teratogenic
- Prenatal & Postnatal Development  Rabbit  No route specified  200 mg/kg/day  NOEL  Not Teratogenic
11. TOXICOLOGICAL INFORMATION

Reproductive & Fertility  Rat  No route specified  8000 mg/kg/day  NOEL  No effects at maximum dose

Butylated hydroxytoluene
Embryo / Fetal Development  Rat  Oral  6 g/kg  LOEL  Teratogenic

Genetic Toxicity: (Study Type, Cell Type/Organism, Result)

Moxidectin
- In Vitro Bacterial Mutagenicity (Ames)  Salmonella , E. coli  Negative
- In Vitro HGPRT Forward Gene Mutation Assay  Chinese Hamster Ovary (CHO) cells  Negative
- In Vivo Cytogenetics  Rat Bone Marrow  Negative
- In Vivo Unscheduled DNA Synthesis  Rat Hepatocyte  Negative

Praziquantel
Mammalian Cell Mutagenicity  Not specified  Negative

Carcinogenicity: (Duration, Species, Route, Dose, End Point, Effect(s))

Moxidectin
- 2 Year(s)  Mouse  Oral  30 mg/kg/day  NOEL  Not carcinogenic
- 2 Year(s)  Rat  Oral  100 mg/kg/day  NOEL  Not carcinogenic

Praziquantel
- 2 Year(s)  Rat  No route specified  Not carcinogenic
- 2 Year(s)  Hamster  No route specified  Not carcinogenic

Carcinogen Status:  Carcinogenicity of the mixture has not been determined. Alcohol is listed as a carcinogen by IARC. The IARC monograph examining the carcinogenic potential of ethanol examined only alcoholic beverages. No other components are listed as carcinogens by IARC, US OSHA or NTP.

Colloidal silicon dioxide
IARC:  Group 3 (Not Classifiable)

Ethyl alcohol (ethanol)
IARC:  Group 1 (Carcinogenic to Humans)

Butylated hydroxytoluene
IARC:  Group 3 (Not Classifiable)
12. ECOLOGICAL INFORMATION

Environmental Overview: Very toxic to aquatic life with long lasting effects. Releases to the environment should be avoided.

Toxicity:

Aquatic Toxicity: (Species, Method, End Point, Duration, Result)

**Moxidectin**

- *Pimephales promelas* (Fathead Minnow) EPA LC50 96 Hours 460 mg/L
- *Oncorhynchus mykiss* (Rainbow Trout) LC50 96 Hours 0.16 ppb
- *Daphnia Magna* (Water Flea) EC50 48 Hours 30 ppt
- *Selenastrum capricornutum* (Green Alga) EC50 72 Hours > 87 ppb

**Ethyl alcohol (ethanol)**

- *Oncorhynchus mykiss* (Rainbow Trout) LC50/96h 12,900-15,300 mg/L

**Benzyl Alcohol**

- *Pimephales promelas* (Fathead Minnow) EPA LC50 96 Hours 460 mg/L
- *Daphnia magna* (Water Flea) OECD EC50 48 Hours 230 mg/L
- *Selenastrum capricornutum* (Green Alga) OECD EC50 72 Hours 500 mg/L

Aquatic Toxicity Comments: A greater than symbol (>) indicates that aquatic toxicity was not observed at the maximum dose tested.

**Benzyl Alcohol**

- *Daphnia magna* (Water Flea) OECD 21 Day(s) EC50 66 mg/L Reproduction

Persistence and Degradability:

**Benzyl Alcohol**

OECD Activated sludge Ready 92% After 14 Day(s) Ready

Bio-accumulative Potential:

**Moxidectin**

Predicted 7 Log D 8.74

Mobility in Soil: No data available

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods: Dispose of waste in accordance with all applicable laws and regulations. Member State specific and Community specific provisions must be considered. 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.

14. TRANSPORT INFORMATION

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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.

UN number: UN 3082
UN proper shipping name: Environmentally hazardous substances, liquid, n.o.s. (moxidectin)
Transport hazard class(es): 9
Packing group: III
Environmental Hazard(s): Marine Pollutant

Please refer to the applicable dangerous goods regulations for additional information. Transport according to the requirements of the appropriate regulatory body.

DOT / ANTT: Not regulated for transportation

15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

Canada - WHMIS: Classifications
WHMIS hazard class:
Non-controlled
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Praziquantel
CERCLA/SARA 313 Emission reporting Not Listed
California Proposition 65 Not Listed
Australia (AICS): Present
Standard for the Uniform Scheduling for Drugs and Poisons: Schedule 4
EU EINECS/ELINCS List 259-559-6

Ethyl alcohol (ethanol)
CERCLA/SARA 313 Emission reporting Not Listed
carcinogen initial date 4/29/11 in alcoholic beverages
developmental toxicity initial date 10/1/87 in alcoholic beverages
California Proposition 65 Present
Inventory - United States TSCA - Sect. 8(b) Present
Australia (AICS): Present
15. REGULATORY INFORMATION

**EU EINECS/ELINCS List**

- Benzyl Alcohol
  - CERCLA/SARA 313 Emission reporting: Not Listed
  - California Proposition 65: Not Listed
  - Inventory - United States TSCA - Sect. 8(b): Present
  - Australia (AICS): Present
  - EU EINECS/ELINCS List: 202-859-9

- Moxidectin
  - CERCLA/SARA 313 Emission reporting: Not Listed
  - California Proposition 65: Not Listed
  - Inventory - United States TSCA - Sect. 8(b): Present
  - Australia (AICS): Present
  - EU EINECS/ELINCS List: Not Listed

- Butylated hydroxytoluene
  - CERCLA/SARA 313 Emission reporting: Not Listed
  - California Proposition 65: Not Listed
  - Inventory - United States TSCA - Sect. 8(b): Present
  - Australia (AICS): Present
  - EU EINECS/ELINCS List: 204-881-4

- 2% polysorbate 80
  - CERCLA/SARA 313 Emission reporting: Not Listed
  - California Proposition 65: Not Listed
  - Inventory - United States TSCA - Sect. 8(b): Present
  - Australia (AICS): Present
  - EU EINECS/ELINCS List: Not Listed

- Colloidal silicon dioxide
  - CERCLA/SARA 313 Emission reporting: Not Listed
  - California Proposition 65: Not Listed
  - Inventory - United States TSCA - Sect. 8(b): Present
  - Australia (AICS): Present
  - EU EINECS/ELINCS List: 231-545-4

- Ethylcellulose
  - CERCLA/SARA 313 Emission reporting: Not Listed
  - California Proposition 65: Not Listed
  - Inventory - United States TSCA - Sect. 8(b): Present
  - Australia (AICS): Present
  - EU EINECS/ELINCS List: Not Listed

- Propylene glycol dicaprylate-caprate
  - CERCLA/SARA 313 Emission reporting: Not Listed
  - California Proposition 65: Not Listed
  - Inventory - United States TSCA - Sect. 8(b): Present
  - Australia (AICS): Present
  - EU EINECS/ELINCS List: 271-516-3

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16. OTHER INFORMATION

Text of R phrases and GHS Classification abbreviations mentioned in Section 3

Flammable liquids-Cat.2; H225 - Highly flammable liquid and vapor
Acute toxicity, oral-Cat.3; H301 - Toxic if swallowed
Acute toxicity, oral-Cat.4; H302 - Harmful if swallowed
Acute toxicity, inhalation-Cat.4; H332 - Harmful if inhaled
Hazardous to the aquatic environment, acute toxicity-Cat.1; H400 - Very toxic to aquatic life
Hazardous to the aquatic environment, chronic toxicity-Cat.1; H410 - Very toxic to aquatic life with long lasting effects
Serious eye damage/eye irritation-Cat.2A; H319 - Causes serious eye irritation
Skin corrosion/irritation-Cat.3; H316 - Causes mild skin irritation

F - Highly flammable
N - Dangerous for the environment
Xn - Harmful
Xi - Irritant
R11 - Highly flammable.
R25 - Toxic if swallowed.
R36 - Irritating to eyes.
R20/22 - Harmful by inhalation and if swallowed.
R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Data Sources: The data contained in this MSDS may have been gathered from confidential internal sources, raw material suppliers, or from the published literature.

Reasons for Revision: Updated Section 14 - Transport Information.

Prepared by: Toxicology and Hazard Communication
Zoetis Global Risk Management

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End of Safety Data Sheet