1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Material Name: DECTOMAX (Doramectin) Pour-On Solution

Trade Name: DECTOMAX
Chemical Family: Mixture
Intended Use: Veterinary product used as antiparasitic, endectocide

2. HAZARDS IDENTIFICATION

Appearance: Clear, colorless solution or clear, blue solution
Signal Word: WARNING

Statement of Hazard: Highly flammable liquid and vapor.
Causes eye irritation.
Vapors may cause drowsiness and irritation of the eyes or respiratory tract.

Additional Hazard Information:

Short Term: May be absorbed through the skin and cause systemic effects. Breathing high vapor concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea, and loss of coordination. Continued inhalation may result in unconsciousness and death. May be harmful to aquatic organisms.

Long Term: Prolonged or repeated contact may cause defatting and drying of the skin. Repeat-dose studies in animals have shown a potential to cause adverse effects on the developing fetus. May have long-term effects on the aquatic environment.

EU Indication of danger: Flammable
Irritant

EU Hazard Symbols: F Xi

EU Risk Phrases:
R11 - Highly flammable.
R36 - Irritating to eyes.
R67 - Vapors may cause drowsiness and dizziness.
R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2. HAZARDS IDENTIFICATION

Note: This document has been prepared in accordance with standards for workplace safety, which require the inclusion of all known hazards of the product or its ingredients regardless of the potential risk. The precautionary statements and warnings 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>Ingredient</th>
<th>CAS Number</th>
<th>EU EINECS/ELINCS List</th>
<th>Classification</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doramectin</td>
<td>117704-25-3</td>
<td>Not listed</td>
<td>Xn;R22 N;R50/53 Repr.Cat.3;R63 R64</td>
<td>0.5</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>102-71-6</td>
<td>203-049-8</td>
<td>Not Listed</td>
<td>*</td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>67-63-0</td>
<td>200-661-7</td>
<td>F;RTT R67 Xi;R36</td>
<td>79</td>
</tr>
<tr>
<td>FD &amp; C Blue No. 1</td>
<td>3844-45-9</td>
<td>223-339-8</td>
<td>Not Listed</td>
<td>*</td>
</tr>
<tr>
<td>Water for injection</td>
<td>7732-18-5</td>
<td>231-791-2</td>
<td>Not Listed</td>
<td>*</td>
</tr>
<tr>
<td>Cetearyl octanoate</td>
<td>59130-69-7</td>
<td>261-619-1</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 mentioned in this Section, see Section 16

4. FIRST AID MEASURES

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

Skin Contact: Remove clothing and wash affected skin with soap and water. If irritation occurs or persists, get 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.

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.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Carbon dioxide, dry chemical, or foam

Hazardous Combustion Products: Emits toxic fumes of carbon monoxide, carbon dioxide, and nitrogen oxides.
MATERIAL SAFETY DATA SHEET

Material Name: DECTOMAX (Doramectin) Pour-On Solution
Revision date: 22-Dec-2009

Fire Fighting Procedures: Wear approved positive pressure, self-contained breathing apparatus and full protective turnout gear. Evacuate area and fight fire from a safe distance. Dike and collect water used to fight fire.

Fire / Explosion Hazards: Flammable liquid and vapor. Vapors will form flammable or explosive mixtures with air at room temperature.

6. ACCIDENTAL RELEASE MEASURES

Health and Safety Precautions: Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure. Eliminate all sources of ignition and ventilate area using explosion-proof equipment.

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.

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

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

General Handling: Eliminate possible ignition sources (e.g., heat, sparks, flame, impact, friction, electricity), and follow appropriate grounding and bonding procedures. Use only in a well-ventilated area. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. When handling, use appropriate personal protective equipment (see Section 8). Wash hands and any exposed skin after removal of PPE. Releases to the environment should be avoided. Refer to Section 12 - Ecological Information, for information on potential effects on the environment. 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.

Storage Conditions: Store as directed by product packaging.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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

Doramectin
Pfizer OEL TWA-8 Hr: 200µg/m³

Triethanolamine
ACGIH Threshold Limit Value (TWA) 5 mg/m³ TWA
Australia TWA 5 mg/m³
Austria OEL - MAKs Listed
Belgium OEL - TWA Listed
Bulgaria OEL - TWA Listed
Czech Republic OEL - TWA Listed
Denmark OEL - TWA Listed
Estonia OEL - TWA Listed
Finland OEL - TWA Listed
Ireland OEL - TWAs Listed
### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- **Lithuania OEL - TWA**: Listed
- **Portugal OEL - TWA**: Listed
- **Slovenia OEL - TWA**: Listed
- **Spain OEL - TWA**: Listed
- **Sweden OEL - TWAs**: Listed

**Isopropyl alcohol**

- ACGIH Threshold Limit Value (TWA): 200 ppm TWA
- ACGIH Threshold Limit Value (STEL): 400 ppm STEL
- **Australia STEL**: 1230 mg/m³
  - 500 ppm
- **Australia TWA**: 400 ppm
  - 983 mg/m³
- **Austria OEL - MAKs**: Listed
- **Belgium OEL - TWA**: Listed
- **Bulgaria OEL - TWA**: Listed
- **Czech Republic OEL - TWA**: Listed
- **Denmark OEL - TWA**: Listed
- **Estonia OEL - TWA**: Listed
- **Finland OEL - TWA**: Listed
- **Germany - TRGS 900 - TWAs**: 200 ppm
  - 500 mg/m³
- **Germany (DFG) - MAK**: 200 ppm MAK
  - 500 mg/m³ MAK
- **Germany - Biological Exposure Limit**: Listed
- **Greece OEL - TWA**: Listed
- **Hungary OEL - TWA**: Listed
- **Ireland OEL - TWAs**: Listed
- **Japan - OELs - Ceilings**: 400 ppm
  - 980 mg/m³
- **Latvia OEL - TWA**: Listed
- **Lithuania OEL - TWA**: Listed
- **OSHA - Final PELS - TWAs**: 400 ppm
  - 980 mg/m³
- **Poland OEL - TWA**: Listed
- **Portugal OEL - TWA**: Listed
- **Romania OEL - TWA**: Listed
- **Romania - Biological Exposure Limit**: Listed
- **Slovak Republic - Biological Exposure Limit**: Listed
- **Slovenia OEL - TWA**: Listed
- **Spain OEL - TWA**: Listed
- **Sweden OEL - TWAs**: Listed

**Analytical Method:** Analytical method available for doramectin. Contact Pfizer Inc for further information.

**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 airborne contamination levels below the exposure limits listed above in this section.

**Environmental Exposure Controls:** Refer to specific Member State legislation for requirements under Community environmental legislation.

**Personal Protective Equipment:** Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE).
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Protection</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hands:</td>
<td>Impervious gloves are recommended if skin contact with drug product is possible and for bulk processing operations.</td>
</tr>
<tr>
<td>Eyes:</td>
<td>Wear safety glasses or goggles if eye contact is possible.</td>
</tr>
<tr>
<td>Skin:</td>
<td>Impervious protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations.</td>
</tr>
<tr>
<td>Respiratory protection:</td>
<td>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.</td>
</tr>
</tbody>
</table>

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Odor:</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>Mixture</td>
</tr>
<tr>
<td>Boiling Point (°C)</td>
<td>84</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.796 - 0.799 (25 °C)</td>
</tr>
<tr>
<td>Partition Coefficient (Log Pow/Log Kow)</td>
<td>4.41 (Doramectin)</td>
</tr>
<tr>
<td>Flash Point (Liquid) (°C)</td>
<td>14.4</td>
</tr>
<tr>
<td>Polymerization</td>
<td>Will not occur</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

| Stability                              | Stable under normal conditions of use. |
| Conditions to Avoid                    | Eliminate possible ignition sources (e.g., heat, sparks, flame, impact, friction, electrostatic discharge). |
| Incompatible Materials                 | Strong oxidizers |
| Hazardous Decomposition Products       | May form toxic materials such as carbon monoxide and carbon dioxide. |

11. TOXICOLOGICAL INFORMATION

| General Information                     | The information included in this section describes the potential hazards of the individual ingredients. |

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

<table>
<thead>
<tr>
<th>Compound</th>
<th>Species</th>
<th>Route</th>
<th>End Point</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethanolamine</td>
<td>Rat</td>
<td>Oral</td>
<td>LD50</td>
<td>8 g/kg</td>
</tr>
<tr>
<td></td>
<td>Rabbit</td>
<td>Dermal</td>
<td>LD50</td>
<td>20 g/kg</td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>Rat</td>
<td>Oral</td>
<td>LD50</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Mouse</td>
<td>Oral</td>
<td>LD50</td>
<td>3600 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>Inhalation</td>
<td>LC50-8h</td>
<td>16,000 ppm</td>
</tr>
<tr>
<td></td>
<td>Rabbit</td>
<td>Dermal</td>
<td>LD50</td>
<td>12800 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>Inhalation</td>
<td>LC50</td>
<td>30 mg/L</td>
</tr>
<tr>
<td>Doramectin</td>
<td>Rat (M)</td>
<td>Oral</td>
<td>LD50</td>
<td>1000-2000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rat (F)</td>
<td>Oral</td>
<td>LD50</td>
<td>500-1000 mg/kg</td>
</tr>
</tbody>
</table>
11. TOXICOLOGICAL INFORMATION

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)

**Isopropyl alcohol**
- Eye Irritation: Rabbit, Severe
- Skin Irritation: Rabbit, Mild

**Doramectin**
- Eye Irritation: Rabbit, Non-irritating
- Skin Irritation: Rabbit, Non-irritating

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

**Isopropyl alcohol**
- 20 Week(s) Rat Inhalation 4000 ppm NOAEL Liver, Central nervous system
- 104 Week(s) Rat Inhalation 5000 ppm Kidney

**Doramectin**
- 3 Month(s) Rat Oral 2 mg/kg/day NOEL Liver
- 3 Month(s) Dog Oral 0.1 mg/kg/day NOEL Central Nervous System

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

**Isopropyl alcohol**
- Prenatal & Postnatal Development Rat Inhalation 7,000 ppm LOAEL Maternal toxicity, Fetotoxicity, Embryotoxicity
- 2 Generation Reproductive Toxicity Rat Oral 1000 mg/kg/day LOAEL Maternal Toxicity, Fetal mortality
- Prenatal & Postnatal Development Rat Oral 1200 mg/kg/day NOAEL No effects at maximum dose

**Doramectin**
- Embryo / Fetal Development Rat Oral >6 mg/kg/day NOEL Not teratogenic
- Embryo / Fetal Development Mouse Oral 3 mg/kg/day NOEL Fetotoxicity, Not Teratogenic
- Embryo / Fetal Development Rabbit Oral 0.75 mg/kg/day NOEL Maternal Toxicity, Teratogenic

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

**Isopropyl alcohol**
- Bacterial Mutagenicity (Ames) Salmonella Negative
- Mammalian Cell Mutagenicity HGPRT Chinese Hamster Ovary (CHO) cells Negative
- In Vitro Sister Chromatid Exchange Negative

**Doramectin**
- Bacterial Mutagenicity (Ames) Salmonella Negative
- Mammalian Cell Mutagenicity Mouse Lymphoma Negative
- Unscheduled DNA Synthesis Rat Hepatocyte Negative

Carcinogen Status: None of the components of this formulation are listed as a carcinogen by IARC, NTP or OSHA. See below

**Triethanolamine**
- IARC: Group 3
11. TOXICOLOGICAL INFORMATION

FD & C Blue No. 1
IARC: Group 3

Isopropyl alcohol
IARC: Group 3

12. ECOLOGICAL INFORMATION

Environmental Overview:
In the environment, the active ingredient in this formulation is expected to bind tightly to soil or sediment and not readily desorb. It is unlikely to reach groundwater and is also biodegradable by soil microflora. Harmful effects to aquatic organisms could occur.

Bioaccumulation and Toxicity:
Partition Coefficient
(Measured - Log Pow/Log Kow):
4.41 (Doramectin)

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

<table>
<thead>
<tr>
<th>Substance/Species</th>
<th>Method</th>
<th>End Point</th>
<th>Duration</th>
<th>Result (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethanolamine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brachydanio rerio (Zebra fish)</td>
<td>LC50</td>
<td>96 Hours</td>
<td>11,800</td>
<td></td>
</tr>
<tr>
<td>Ceriodaphnia dubia (Daphnids)</td>
<td>EC50</td>
<td>48 Hours</td>
<td>610</td>
<td></td>
</tr>
<tr>
<td>Daphnia Magna (Water Flea)</td>
<td>EC50</td>
<td>24 Hours</td>
<td>1386</td>
<td></td>
</tr>
<tr>
<td>Daphnia magna (Water Flea)</td>
<td>NOEC</td>
<td>21 Days</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

Doramectin

<table>
<thead>
<tr>
<th>Substance/Species</th>
<th>Method</th>
<th>End Point</th>
<th>Duration</th>
<th>Result (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daphnia magna (Water Flea)</td>
<td>TAD</td>
<td>EC50</td>
<td>48 Hours</td>
<td>0.00010</td>
</tr>
<tr>
<td>Lepomis macrochirus (Bluegill Sunfish)</td>
<td>TAD</td>
<td>LC50</td>
<td>96 Hours</td>
<td>0.011</td>
</tr>
<tr>
<td>Oncorhynchus mykiss (Rainbow Trout)</td>
<td>TAD</td>
<td>LC50</td>
<td>96 Hours</td>
<td>0.0051</td>
</tr>
</tbody>
</table>

Bacterial Inhibition: (Species, Method, End Point, Duration, Result)

Doramectin

<table>
<thead>
<tr>
<th>Substance/Species</th>
<th>Method</th>
<th>End Point</th>
<th>Duration</th>
<th>Result (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspergillus niger (Fungus)</td>
<td>TAD</td>
<td>MIC</td>
<td>48 Hours</td>
<td>600</td>
</tr>
<tr>
<td>Clostridium perfringens (Bacterium)</td>
<td>TAD</td>
<td>MIC</td>
<td>48 Hours</td>
<td>40</td>
</tr>
</tbody>
</table>

13. DISPOSAL CONSIDERATIONS

Disposal Procedures:
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

This material is regulated for transportation as a hazardous material/dangerous good.

Proper shipping name:
Manufactured before January 1, 2010: UN 1993, Flammable liquid, n.o.s. (Isopropanol), 3, II
Manufactured after January 1, 2010: UN 1219, Isopropanol solution, 3, II

Flash Point (°C):
14.4

For small quantities packed in combination packaging [limited to inner packaging < 1.0L (0.3 gal) and outer packaging < 30 kg (66 lb.) gross weight], the following will apply: If your commodity meets the definition of a limited quantity and is packaged for retail sale, it may be considered a consumer commodity and excepted from additional requirements as applicable.
14. TRANSPORT INFORMATION

IATA / ICAO

- IATA Proper shipping name: Consumer Commodity
- IATA Limits: [Inner packaging <= 500 mL (17 Fl. Oz); Outer packaging <= 30 kg (66 lb) gross weight.]
- IATA UN / ID No: ID 8000
- IATA Hazard Class: 9
- IATA Packing Group: Not applicable

IMDG

- IMDG Proper shipping name: Isopropanol Solution Ltd. Qty.
- IMDG UN / ID No: UN 1219
- IMDG Hazard Class: 3
- Flash Point (°C): 14.4
- IMDG Packing Group: II

ADR/RID

- ADR/RID Proper shipping name: Isopropanol Solution
- ADR UN/ID: UN 1219
- ADR / RID Hazard Class: 3
- ADR / RID Packing Group: II
- ADR/RID Note: ADR Limited Quantity is <= 3.0 liters per inner packaging.

DOT

- DOT Proper shipping name: Consumer Commodity
- DOT Hazard Class: ORM-D

15. REGULATORY INFORMATION

EU Symbol: F Xi
EU Indication of danger: Flammable
Irritant

EU Risk Phrases:
- R11 - Highly flammable.
- R36 - Irritating to eyes.
- R67 - Vapors may cause drowsiness and dizziness.
- R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

EU Safety Phrases:
- S7 - Keep container tightly closed.
- S16 - Keep away from sources of ignition - No smoking.
- S24/25 - Avoid contact with eyes and skin.
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

OSHA Label:
WARNING
Highly flammable liquid and vapor.
Causes eye irritation.
Vapors may cause drowsiness and irritation of the eyes or respiratory tract.
15. REGULATORY INFORMATION

Canada - WHMIS: Classifications

WHMIS hazard class:
Class D, Division 2, Subdivision B
Class B, Division 2

Doramectin
  Standard for the Uniform Scheduling for Drugs and Poisons:
  Schedule 5
  Schedule 6
  Schedule 7

Triethanolamine
  Inventory - United States TSCA - Sect. 8(b) Listed
  Australia (AICS): Listed
  Standard for the Uniform Scheduling for Drugs and Poisons: Schedule 5
  EU EINECS/ELINCS List 203-049-8

FD & C Blue No. 1
  Inventory - United States TSCA - Sect. 8(b) Listed
  Australia (AICS): Listed
  EU EINECS/ELINCS List 223-339-8

Water for injection
  Inventory - United States TSCA - Sect. 8(b) Listed
  Australia (AICS): Listed
  REACH - Annex IV - Exemptions from the obligations of Register:
  Present
  EU EINECS/ELINCS List 231-791-2

Isopropyl alcohol
  CERCLA/SARA 313 Emission reporting 1.0% de minimis concentration only if manufactured by the strong acid process, no supplier notification
  Inventory - United States TSCA - Sect. 8(b) Listed
  Australia (AICS): Listed
  EU EINECS/ELINCS List 200-661-7

Cetearyl octanoate
  Inventory - United States TSCA - Sect. 8(b) Listed
  Australia (AICS): Listed
  EU EINECS/ELINCS List 261-619-1

16. OTHER INFORMATION

Text of R phrases mentioned in Section 3
R11 - Highly flammable.
R22 - Harmful if swallowed.
R36 - Irritating to eyes.
R63 - Possible risk of harm to the unborn child.
R64 - May cause harm to breastfed babies.
R67 - Vapors may cause drowsiness and dizziness.
R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Reasons for Revision:**

- Updated Section 1 - Identification of the Substance/Preparation and the Company/Undertaking.
- Updated Section 2 - Hazard Identification.
- Updated Section 3 - Composition / Information on Ingredients.
- Updated Section 7 - Handling and Storage.
- Updated Section 8 - Exposure Controls / Personal Protection.
- Updated Section 9 - Physical and Chemical Properties.
- Updated Section 11 - Toxicology Information.
- Updated Section 12 - Ecological Information.
- Updated Section 13 - Disposal Considerations.
- Updated Section 14 - Transport Information.
- Updated Section 15 - Regulatory Information.

**Prepared by:**

Toxicology and Hazard Communication
Pfizer Global Environment, Health, and Safety Operations

Pfizer Inc believes that the information contained in this Material Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied. If data for a hazard are not included in this document there is no known information at this time.

**End of Safety Data Sheet**