SAFETY DATA SHEET

1. Identification

Product identifier
REVOLUTION; STRONGHOLD

Other means of identification
Synonyms
Selamectin topical solution- Single dose tubes * PARADYNE * REVOLUTION 6% * REVOLUTION 12% * STRONGHOLD 6 * STRONGHOLD 12

Recommended use of the chemical and restrictions on use
Recommended use
Veterinary antiparasitic (endectocide)

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
productsupport.au@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
Flammable liquids
Category 2

Health hazards
Serious eye damage/eye irritation
Category 2A
Reproductive toxicity
Category 2
Specific target organ toxicity following single exposure
Category 3 narcotic effects

Environmental hazards
Hazardous to the aquatic environment, acute hazard
Category 1
Hazardous to the aquatic environment, long-term hazard
Category 1

Label elements, including precautionary statements

Hazard symbol(s)

Signal word
Danger

Hazard statement(s)
Highly flammable liquid and vapour. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)
Prevention
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/eye protection/face protection. Use only outdoors or in a well-ventilated area. Avoid breathing mist or vapour.
Response
IF exposed or concerned: Get medical advice/attention. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor/physician if you feel unwell. In case of fire: Use appropriate media for extinction. Collect spillage.

Storage
Store in a well-ventilated place. Keep cool. Store locked up.

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 slight skin irritation.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Mixture</th>
<th>Identity of chemical ingredients</th>
<th>CAS number and other unique identifiers</th>
<th>Concentration of ingredients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Isopropyl alcohol</td>
<td>67-63-0</td>
<td>72-86</td>
</tr>
<tr>
<td></td>
<td>Selamectin</td>
<td>2201119-17-5</td>
<td>7-15</td>
</tr>
<tr>
<td></td>
<td>DIPROPYLENE GLYCOL METHYL ETHER</td>
<td>34590-94-8</td>
<td>6-14</td>
</tr>
<tr>
<td></td>
<td>Butylated hydroxytoluene</td>
<td>128-37-0</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

4. First-aid measures

Description of necessary first aid measures
Inhalation
Move to fresh air. Call a POISON CENTRE or doctor/physician if you feel unwell. For breathing difficulties, oxygen may be necessary.

Skin contact
Take off immediately all contaminated clothing. Wash off with soap and plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

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 immediately.

Ingestion
IF exposed or concerned: Get medical advice/attention. For personal protection, see section 8 of the SDS. Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

Personal protection for first-aid responders
IF exposed or concerned: Get medical advice/attention. For personal protection, see section 8 of the SDS. Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

Symptoms caused by exposure
Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause drowsiness and dizziness. Headache. Nausea, vomiting. May cause respiratory irritation. Mild skin irritation. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Medical attention and special treatment
Provide general supportive measures and treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

Extinguishing media
Suitable extinguishing media
Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO2).

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

Specific hazards arising from the chemical
Highly flammable. Vapours may ignite. Vapours may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for fire fighters
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions
In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Hazchem code
2Y E
General fire hazards

Highly flammable liquid and vapour.

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

Local authorities should be advised if significant spillages cannot be contained.

For emergency responders

Ensure adequate ventilation. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid contact with eyes, skin, and clothing. Do not breathe mist or vapour. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use appropriate containment to avoid environmental contamination. Use personal protection recommended in Section 8 of the SDS.

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. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Ground container and transfer equipment to eliminate static electric sparks. Take precautionary measures against static discharge. Use only non-sparking tools. Ventilate the contaminated area. Use water spray to disperse vapors and dilute spill to a nonflammable mixture. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Clean surface thoroughly to remove residual contamination.

Small Spills: Absorb spillage with non-combustible, absorbent material. 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

Highly flammable. May be ignited by open flame. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not taste or swallow. Avoid breathing mist or vapour. Avoid contact with eyes, skin, and clothing. Use only outdoors or in a well-ventilated area. Wear personal protective equipment. Observe good industrial hygiene practices. Wash thoroughly after handling. When using, do not eat, drink or smoke. Avoid release to the environment.

Also, Industrial use: Take precautionary measures against static discharges. Use only non-sparking tools. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Ground and bond containers when transferring material. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep containers tightly closed in a cool, well-ventilated place. < 30C/86F. Protect from sunlight. Do not handle or store near an open flame, heat or other sources of ignition. 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).

Also, Industrial use: Keep in an area equipped with sprinklers. This material can accumulate static charge which may cause spark and become an ignition source. Take measures to prevent the build up of electrostatic charge. Prevent electrostatic charge build-up by using common bonding and grounding techniques.

8. Exposure controls and personal protection

Control parameters

Follow standard monitoring procedures.

Occupational exposure limits

<table>
<thead>
<tr>
<th>Zoetis Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selamectin (CAS 220119-17-5)</td>
<td>TWA</td>
<td>200 µg/m³</td>
</tr>
</tbody>
</table>

Material name: REVOLUTION; STRONGHOLD

SDS AUSTRALIA

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<table>
<thead>
<tr>
<th>Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)</th>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butylated hydroxytoluene (CAS 128-37-0)</td>
<td>TWA</td>
<td>10 mg/m3</td>
<td></td>
</tr>
<tr>
<td>DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)</td>
<td>TWA</td>
<td>308 mg/m3</td>
<td></td>
</tr>
<tr>
<td>Isopropyl alcohol (CAS 67-63-0)</td>
<td>STEL</td>
<td>1230 mg/m3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)</th>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butylated hydroxytoluene (CAS 128-37-0)</td>
<td>TWA</td>
<td>10 mg/m3</td>
<td></td>
</tr>
<tr>
<td>DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)</td>
<td>TWA</td>
<td>308 mg/m3</td>
<td></td>
</tr>
<tr>
<td>Isopropyl alcohol (CAS 67-63-0)</td>
<td>STEL</td>
<td>1230 mg/m3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>US. ACGIH Threshold Limit Values</th>
<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>
<td></td>
</tr>
<tr>
<td>DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)</td>
<td>STEL</td>
<td>150 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isopropyl alcohol (CAS 67-63-0)</td>
<td>TWA</td>
<td>100 ppm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UK. EH40 Workplace Exposure Limits (WELs)</th>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butylated hydroxytoluene (CAS 128-37-0)</td>
<td>TWA</td>
<td>10 mg/m3</td>
<td></td>
</tr>
<tr>
<td>DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)</td>
<td>TWA</td>
<td>308 mg/m3</td>
<td></td>
</tr>
<tr>
<td>Isopropyl alcohol (CAS 67-63-0)</td>
<td>STEL</td>
<td>1250 mg/m3</td>
<td></td>
</tr>
</tbody>
</table>

Material name: REVOLUTION; STRONGHOLD
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>DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)</td>
<td>TWA</td>
<td>310 mg/m³</td>
<td>Vapour.</td>
</tr>
<tr>
<td>Isopropyl alcohol (CAS 67-63-0)</td>
<td>TWA</td>
<td>500 mg/m³</td>
<td>Vapour.</td>
</tr>
<tr>
<td>Isopropyl alcohol (CAS 67-63-0)</td>
<td></td>
<td>200 ppm</td>
<td></td>
</tr>
</tbody>
</table>

Biological limit values

Germany. TRGS 903, BAT List (Biological Limit Values)

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Determinant</th>
<th>Specimen</th>
<th>Sampling Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol (CAS 67-63-0)</td>
<td>25 mg/l</td>
<td>Aceton</td>
<td>Urine</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>25 mg/l</td>
<td>Aceton</td>
<td>Blood</td>
<td>*</td>
</tr>
</tbody>
</table>
* - For sampling details, please see the source document.

ACGIH Biological Exposure Indices

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Determinant</th>
<th>Specimen</th>
<th>Sampling Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol (CAS 67-63-0)</td>
<td>40 mg/l</td>
<td>Acetone</td>
<td>Urine</td>
<td>*</td>
</tr>
</tbody>
</table>
* - For sampling details, please see the source document.

Exposure guidelines

US ACGIH Threshold Limit Values: Skin designation

DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)

Can be absorbed through the skin.

Appropriate engineering controls

General ventilation normally adequate.

Industrial use: Provide adequate general and local exhaust ventilation. 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. Provide eyewash station.

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

Eye/face protection

Not normally needed. If contact is likely, safety glasses with side shields are recommended.

Industrial use: Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear protective gloves.

Industrial use: Wear appropriate chemical resistant gloves.

Other

Not normally needed.

Industrial use: Wear suitable protective clothing. Impervious protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations.

Respiratory protection

No personal respiratory protective equipment normally required.

Industrial use: In case of insufficient ventilation, wear suitable respiratory equipment. 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. Chemical respirator with organic vapour cartridge and full facepiece.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

Hygiene measures

Observe any medical surveillance requirements. When using do not smoke. 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  Liquid solution.
Physical state  Liquid.
Form  Liquid.
Colour  Yellow. - Colourless.
Odour  Characteristic alcohol odor.
Odour threshold  Not available.
pH  Not available.
Melting point/freezing point  194 °C (381.2 °F) estimated
Initial boiling point and boiling range  84 °C (183.2 °F)
Flash point  19.0 °C (66.2 °F)
Evaporation rate  Not available.
Flammability (solid, gas)  Not applicable.
Upper/lower flammability or explosive limits
  Flammability limit - lower (%)
  Flammability limit - upper (%)
  Explosive limit - lower ( %)
  Explosive limit – upper (%)
Vapour pressure  Not available.
Vapour density  Not available.
Relative density  Not available.
Solubility(ies)
  Solubility (water)  Insoluble
Partition coefficient (n-octanol/water)  Not available.
Auto-ignition temperature  Not available.
Decomposition temperature  Not available.
Viscosity  Not available.
Other physical and chemical parameters
  Explosive properties  Not explosive.
  Oxidising properties  Not oxidising.
  Specific gravity  0.82 - 0.85

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. Sunlight. Keep away from heat, spark, open flames and other sources of ignition.
Hazardous decomposition products  Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition.

11. Toxicological information

Information on possible routes of exposure
  Inhalation  May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
**Skin contact**  
Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Result</th>
<th>Species</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>Irritation</td>
<td>Rabbit</td>
<td>Mild</td>
</tr>
<tr>
<td>DIPROPYLENE GLYCOL METHYL ETHER</td>
<td></td>
<td>Rabbit</td>
<td>Mild</td>
</tr>
<tr>
<td>Selamectin</td>
<td></td>
<td>Rabbit</td>
<td>Minimal</td>
</tr>
<tr>
<td>Butylated hydroxytoluene</td>
<td></td>
<td>Rabbit</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

**Eye contact**  
Causes serious eye irritation.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Result</th>
<th>Species</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>Irritation</td>
<td>Rabbit</td>
<td>Severe</td>
</tr>
<tr>
<td>DIPROPYLENE GLYCOL METHYL ETHER</td>
<td></td>
<td>Rabbit</td>
<td>Mild</td>
</tr>
<tr>
<td>Selamectin</td>
<td></td>
<td>Rabbit</td>
<td>Mild</td>
</tr>
<tr>
<td>Butylated hydroxytoluene</td>
<td></td>
<td>Rabbit</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

**Ingestion**  
Health injuries are not known or expected under normal use. May be harmful if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

**Symptoms related to exposure**  
Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause drowsiness and dizziness. Headache. Nausea, vomiting. May cause respiratory irritation. Mild skin irritation. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Prolonged exposure may cause chronic effects.

**Acute toxicity**  
May be harmful if swallowed.

<table>
<thead>
<tr>
<th>Components</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butylated hydroxytoluene (CAS 128-37-0)</td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
</tr>
<tr>
<td>Intraperitoneal</td>
<td></td>
</tr>
<tr>
<td>LD50 Mouse</td>
<td>138 mg/kg</td>
</tr>
<tr>
<td>Oral</td>
<td></td>
</tr>
<tr>
<td>LD50 Mouse</td>
<td>650 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Mouse</td>
</tr>
<tr>
<td></td>
<td>1700 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td>890 mg/kg</td>
</tr>
<tr>
<td><strong>Chronic</strong></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td></td>
</tr>
<tr>
<td>LOAEL Mouse</td>
<td>2000 mg/kg, 4 days Liver Kidney Ureter Bladder</td>
</tr>
<tr>
<td></td>
<td>Mouse</td>
</tr>
<tr>
<td></td>
<td>5185 mg/kg, 4 weeks Liver</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
</tr>
<tr>
<td>DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)</td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
</tr>
<tr>
<td>LD50 Rabbit</td>
<td>9510 mg/kg</td>
</tr>
<tr>
<td>Components</td>
<td>Species</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td></td>
</tr>
<tr>
<td>Vapour</td>
<td>Rat</td>
</tr>
<tr>
<td>LC50</td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
</tr>
<tr>
<td><strong>Isopropyl alcohol (CAS 67-63-0)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>Rabbit</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
</tr>
<tr>
<td>Oral</td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Mouse</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
</tr>
<tr>
<td><strong>Chronic</strong></td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td>Rat</td>
</tr>
<tr>
<td><strong>Selamectin (CAS 220119-17-5)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Mouse</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
</tr>
<tr>
<td><strong>Subchronic</strong></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Dog</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
</tr>
<tr>
<td><strong>Skin corrosion/irritation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Corrosivity</strong></td>
<td></td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>Species: Rabbit</td>
</tr>
<tr>
<td><strong>DIPROPYLENE GLYCOL METHYL ETHER</strong></td>
<td>Species: Rabbit</td>
</tr>
<tr>
<td><strong>Selamectin</strong></td>
<td>Species: Rabbit</td>
</tr>
<tr>
<td><strong>Serious eye damage/irritation</strong></td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td><strong>Eye contact</strong></td>
<td></td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>Result: Irritation</td>
</tr>
<tr>
<td><strong>DIPROPYLENE GLYCOL METHYL ETHER</strong></td>
<td>Species: Rabbit</td>
</tr>
<tr>
<td><strong>Selamectin</strong></td>
<td>Species: Rabbit</td>
</tr>
</tbody>
</table>
Eye contact
Butylated hydroxytoluene
Species: Rabbit
Severity: Moderate

Respiratory or skin sensitisation
Respiratory sensitisation
Not a respiratory sensitizer.

Skin sensitisation
This product is not expected to cause skin sensitisation.

Skin sensitisation
Selamectin
GPMT
Species: Guinea Pig
Severity: negative

Germ cell mutagenicity
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Mutagenicity
Isopropyl alcohol
Bacterial Mutagenicity (Ames)
Result: negative
Species: Salmonella

Selamectin
Bacterial Mutagenicity (Ames)
Result: negative
Species: Salmonella

In Vitro Cytogenetics
Result: negative
Species: Human lymphocytes

Isopropyl alcohol
In Vitro Sister Chromatid Exchange
Result: negative

DIPROPYLENE GLYCOL METHYL ETHER
In vitro tests
Result: negative

Selamectin
In Vivo Micronucleus
Result: negative
Species: Mouse

Mammalian Cell Mutagenicity
Result: negative
Species: Chinese Hamster Ovary (CHO) cells HGPRT

Isopropyl alcohol
Mammalian Cell Mutagenicity
Result: negative
Species: HGPRT Chinese Hamster Ovary (CHO) cells

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.
Isopropyl alcohol (CAS 67-63-0) 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.

Reproductive toxicity
Suspected of damaging fertility or the unborn child.

Developmental effects
Selamectin
10 mg/kg/day Prenatal & Postnatal Development, Developmental toxicity
Result: NOAEL
Species: Rat

Isopropyl alcohol
1200 mg/kg/day Prenatal & Postnatal Development, No effects at maximum dose
Result: NOAEL
Species: Rat
Organ: Oral
Developmental effects
Selamectin 40 mg/kg/day Prenatal & Postnatal Development, Maternal Toxicity
Result: NOAEL
Species: Rat
Organ: Oral

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

Isopropyl alcohol 7000 ppm Prenatal & Postnatal Development, Maternal toxicity, Fetotoxicity, Embryotoxicity
Result: LOAEL
Species: Rat
Organ: Inhalation

DIPROPYLENE GLYCOL METHYL ETHER Not teratogenic

Reproductivity
Selamectin 10 mg/kg/day Reproductive & Fertility, Fetotoxicity
Result: NOAEL
Species: Rat

Isopropyl alcohol 1000 mg/kg/day 2 Generation Reproductive Toxicity, Maternal Toxicity, Fetal mortality
Result: LOAEL
Species: Rat
Organ: Oral

Specific target organ toxicity - single exposure
May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure
Not classified.

Aspiration hazard
Not an aspiration hazard.

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

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol (CAS 67-63-0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>&gt; 1400 mg/l, 96 hours</td>
</tr>
<tr>
<td>Selamectin (CAS 220119-17-5)</td>
<td>EC50</td>
<td>&gt; 763 ug/l, 72 Hours</td>
</tr>
<tr>
<td>Aquatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>26 ng/L, 48 Hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>28 ng/L, 96 Hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 28 ug/l, 48 Hours</td>
</tr>
</tbody>
</table>

Persistence and degradability No data is available on the degradability of this product. As with other members of the avermectin family, selamectin is highly toxic to fish and certain aquatic organisms. However, once in contact with soil, it is tightly bound and does not readily desorb. It is unlikely to reach groundwater and is also biodegradable by soil microflora.

Biodegradability
Percent Degradation (Aerobic Biodegradation)
DIPROPYLENE GLYCOL METHYL ETHER Result: Readily biodegradable
Bioaccumulative potential
No data available for this product. Not expected to bioaccumulate.

Partition coefficient
n-octanol / water (log Kow)
Selamectin 3.1, [Measured, Log P]

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 discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations.

Industrial use: 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
Industrial use: 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.

14. Transport information
ADG
UN number UN1219
UN proper shipping name Isopropanol Solution
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group II
Environmental hazards No
Hazchem code 2YE
Special precautions for user Read safety instructions, SDS and emergency procedures before handling. See "excepted quantity" provisions if applicable.

RID
UN number UN1219
UN proper shipping name Isopropanol Solution
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group II
Environmental hazards Yes (Selamectin)
Special precautions for user Read safety instructions, SDS and emergency procedures before handling. See "excepted quantity" provisions if applicable.

IATA
UN number UN1219
UN proper shipping name Isopropanol Solution
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group II
Environmental hazards Marine Pollutant (Selamectin) >5L / 5Kg
Special precautions for user Read safety instructions, SDS and emergency procedures before handling. See "excepted quantity" provisions if applicable.

IMDG
UN number UN1219
UN proper shipping name Isopropanol Solution, MARINE POLLUTANT (Selamectin)
Transport hazard class(es)

- Class: 3
- Subsidiary risk: -
- Packing group: II
- Environmental hazards
  - Marine pollutant: Yes
  - EmS: F-E, S-D

Special precautions for user
Read safety instructions, SDS and emergency procedures before handling. See "excepted quantity" provisions if applicable. Marine pollutant requirements apply only to quantities >5 Liters for liquids / >5 Kilograms for solids (per inner package) when shipped as per IMDG, IATA or ADR regulations.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not established.

ADG

IATA; IMDG; RID

Marine pollutant

General information
For small quantities packed in combination packaging, exceptions may apply. See "excepted quantity" provisions if applicable. Please refer to the applicable dangerous goods regulations for additional information. Transport according to the requirements of the appropriate regulatory body.

15. Regulatory information

Safety, health and environmental regulations

National regulations
This Safety Data Sheet was prepared in accordance with the Australia Model Code of Practice for the preparation of safety data sheets for hazardous chemicals.

APVMA Registration No: 50867, 50881, 50882

This SDS replaces version: Issued October 2016
Australia Medicines & Poisons Appendix A
Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix B
DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)

Australia Medicines & Poisons Appendix D
Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix E
Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix F
Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix G
Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix H
Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix I
Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix J
Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix K
Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 10
1000 - 9999 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>Taiwan</td>
<td>Taiwan Chemical Substance Inventory (TCSI)</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
12-December-2019

Disclaimer
Zoetis Inc. believes that the information contained in this 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. The information in the sheet was written based on the best knowledge and experience currently available.

Revision information
Product and Company Identification: Synonyms
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Transport Information: Material Transportation Information
Regulatory Information: Other
GHS: Classification