

# SAFETY DATA SHEET



## 1. Identification

<b>Product identifier</b>	<b>REVOLUTION; STRONGHOLD</b>
<b>Other means of identification</b>	
<b>Synonyms</b>	Selamectin topical solution- Single dose tubes * PARADYNE * REVOLUTION 6% * REVOLUTION 12% * STRONGHOLD 6 * STRONGHOLD 12
<b>Recommended use of the chemical and restrictions on use</b>	
<b>Recommended use</b>	Veterinary antiparasitic ( endectocide )
<b>Restrictions on use</b>	Not for human use
<b>Details of manufacturer or importer</b>	
<b>Company Name (AU)</b>	Zoetis Australia Pty Ltd ABN 94 156 476 425 Level 6, 5 Rider Boulevard Rhodes NSW 2138 AUSTRALIA
<b>Tel</b>	1800 814 883
<b>Fax</b>	(02) 8876 0444
<b>Email</b>	productsupport.au@zoetis.com
<b>Emergency Phone</b>	1800 814 883 (all hours)
<b>Police and Fire Brigade</b>	Dial 000
<b>If ineffective</b>	Dial Poisons Information Centre (13 1126 from anywhere in Australia)

## 2. Hazard(s) identification

### Classification of the hazardous chemical

<b>Physical hazards</b>	Flammable liquids	Category 2
<b>Health hazards</b>	Serious eye damage/eye irritation	Category 2A
	Reproductive toxicity	Category 2
	Specific target organ toxicity following single exposure	Category 3 narcotic effects
<b>Environmental hazards</b>	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.

<b>Response</b>	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 eye irritation persists: Get medical advice/attention. 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.
<b>Storage</b>	Store in a well-ventilated place. Keep cool. Store locked up.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Other hazards which do not result in classification</b>	None known.
<b>Supplemental information</b>	May cause slight skin irritation.

### 3. Composition/information on ingredients

#### Mixture

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients (%)
Isopropyl alcohol	67-63-0	72-86
Selamectin	220119-17-5	7-15
DIPROPYLENE GLYCOL METHYL ETHER	34590-94-8	6-14
Butylated hydroxytoluene	128-37-0	<1

### 4. First-aid measures

#### Description of necessary first aid measures

<b>Inhalation</b>	Move to fresh air. Call a POISON CENTRE or doctor/physician if you feel unwell. For breathing difficulties, oxygen may be necessary.
<b>Skin contact</b>	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.
<b>Eye contact</b>	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.
<b>Ingestion</b>	Rinse mouth. Call a physician or poison control centre immediately. Do not induce vomiting without advice from poison control center. Never give anything by mouth to a victim who is unconscious or is having convulsions.

**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 (CO<sub>2</sub>).

**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

#### Zoetis

#### Components

Selamectin (CAS 220119-17-5)

#### Type

TWA

#### Value

200 µg/m<sup>3</sup>

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

Components	Type	Value
Butylated hydroxytoluene (CAS 128-37-0)	TWA	10 mg/m <sup>3</sup>
DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)	TWA	308 mg/m <sup>3</sup>
Isopropyl alcohol (CAS 67-63-0)	STEL	50 ppm
		1230 mg/m <sup>3</sup>
	TWA	500 ppm 983 mg/m <sup>3</sup> 400 ppm

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

Components	Type	Value
Butylated hydroxytoluene (CAS 128-37-0)	TWA	10 mg/m <sup>3</sup>
DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)	TWA	308 mg/m <sup>3</sup>
Isopropyl alcohol (CAS 67-63-0)	STEL	50 ppm
		1230 mg/m <sup>3</sup>
	TWA	500 ppm 983 mg/m <sup>3</sup> 400 ppm

**US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
Butylated hydroxytoluene (CAS 128-37-0)	TWA	2 mg/m <sup>3</sup>	Inhalable fraction and vapor.
DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)	STEL	150 ppm	
Isopropyl alcohol (CAS 67-63-0)	TWA	100 ppm	
	STEL	400 ppm	
	TWA	200 ppm	

**UK. EH40 Workplace Exposure Limits (WELs)**

Components	Type	Value
Butylated hydroxytoluene (CAS 128-37-0)	TWA	10 mg/m <sup>3</sup>
DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)	TWA	308 mg/m <sup>3</sup>
Isopropyl alcohol (CAS 67-63-0)	STEL	50 ppm
		1250 mg/m <sup>3</sup>
	TWA	500 ppm 999 mg/m <sup>3</sup> 400 ppm

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

Components	Type	Value	Form
Butylated hydroxytoluene (CAS 128-37-0)	TWA	10 mg/m <sup>3</sup>	Vapor and aerosol, inhalable fraction.
DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)	TWA	310 mg/m <sup>3</sup>	Vapour.
Isopropyl alcohol (CAS 67-63-0)	TWA	50 ppm	Vapour.
		500 mg/m <sup>3</sup>	
		200 ppm	

**Biological limit values**

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

Components	Value	Determinant	Specimen	Sampling Time
Isopropyl alcohol (CAS 67-63-0)	25 mg/l	Aceton	Urine	*
	25 mg/l	Aceton	Blood	*

\* - For sampling details, please see the source document.

**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Isopropyl alcohol (CAS 67-63-0)	40 mg/l	Acetone	Urine	*

\* - 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

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

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Contact with incompatible materials. Sunlight. Keep away from heat, spark, open flames and other sources of ignition.
<b>Incompatible materials</b>	Acids. Strong oxidising agents. Isocyanates. Chlorine. Combustible material. organic materials.
<b>Hazardous decomposition products</b>	Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition.

## 11. Toxicological information

### Information on possible routes of exposure

<b>Inhalation</b>	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
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**Skin contact** Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Isopropyl alcohol Result: Irritation  
Species: Rabbit  
Severity: Mild

DIPROPYLENE GLYCOL METHYL ETHER Species: Rabbit  
Severity: Mild

Selamectin Species: Rabbit  
Severity: Minimal

Butylated hydroxytoluene Species: Rabbit  
Severity: Moderate

**Eye contact** Causes serious eye irritation.

Isopropyl alcohol Result: Irritation  
Species: Rabbit  
Severity: Severe

DIPROPYLENE GLYCOL METHYL ETHER Species: Rabbit  
Severity: Mild

Selamectin Species: Rabbit  
Severity: Mild

Butylated hydroxytoluene Species: Rabbit  
Severity: Moderate

**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.

Components	Species	Test Results
Butylated hydroxytoluene (CAS 128-37-0)		
<b>Acute</b>		
<b>Intraperitoneal</b>		
LD50	Mouse	138 mg/kg
<b>Oral</b>		
LD50	Mouse	650 mg/kg
	Rat	1700 mg/kg
		890 mg/kg
<b>Chronic</b>		
<b>Oral</b>		
LOAEL	Mouse	2000 mg/kg, 4 days Liver Kidney Ureter Bladder
	Rat	5185 mg/kg, 4 weeks Liver
DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	9510 mg/kg

Components	Species	Test Results
<b>Inhalation</b>		
<i>Vapour</i>		
LC50	Rat	> 3.35 mg/l, 7 hours (No deaths)
<b>Oral</b>		
LD50	Rat	> 5000 mg/kg
Isopropyl alcohol (CAS 67-63-0)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	12800 mg/kg
<b>Inhalation</b>		
LC50	Rat	16000 ppm, 8 hours 30 mg/l
<b>Oral</b>		
LD50	Mouse	3600 mg/kg
	Rat	> 2000 mg/kg
<b>Chronic</b>		
<b>Inhalation</b>		
NOAEL	Rat	4000 ppm, 20 weeks (Liver, Central nervous system)
Selamectin (CAS 220119-17-5)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Mouse	> 1600 mg/kg
	Rat	> 1600 mg/kg
<b>Subchronic</b>		
<b>Oral</b>		
NOAEL	Dog	40 mg/kg/day, 3 months [Target organ(s): None identified]
	Rat	5 mg/kg/day, 3 months [Target organ(s): Liver]
<b>Skin corrosion/irritation</b>	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.	
<b>Corrosivity</b>		
Isopropyl alcohol		Result: Irritation Species: Rabbit Severity: Mild
DIPROPYLENE GLYCOL METHYL ETHER		Species: Rabbit Severity: Mild
Selamectin		Species: Rabbit Severity: Minimal
<b>Serious eye damage/irritation</b>	Causes serious eye irritation.	
<b>Eye contact</b>		
Isopropyl alcohol		Result: Irritation Species: Rabbit Severity: Severe
DIPROPYLENE GLYCOL METHYL ETHER		Species: Rabbit Severity: Mild
Selamectin		Species: Rabbit Severity: Mild



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

A4 Not classifiable as a human carcinogen.  
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.

Components	Species	Test Results
Isopropyl alcohol (CAS 67-63-0)		
<b>Aquatic</b>		
Fish	LC50 Bluegill ( <i>Lepomis macrochirus</i> )	> 1400 mg/l, 96 hours
Selamectin (CAS 220119-17-5)		
EC50 Selenastrum capricornutum (Green Alga)		
<b>Aquatic</b>		
Crustacea	EC50 Daphnia magna (Water Flea)	26 ng/L, 48 Hours
	LC50 Mysidopsis bahia (Mysid Shrimp)	28 ng/L, 96 Hours
Fish	LC50 Cyprinodon variegatus (Sheepshead Minnow)	> 28 ug/l, 48 Hours
	Oncorhynchus mykiss (rainbow trout)	266 ug/l, 96 Hours

**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 &gt;5 Liters for liquids / &gt;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**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 2**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 3**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 4**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 5**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 6**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 7**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 8**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 9**

Poisons schedule number not allocated.

**High Volume Industrial Chemicals (HVIC)**

Isopropyl alcohol (CAS 67-63-0)

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**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

\*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**

<b>Issue date</b>	12-December-2019
<b>Disclaimer</b>	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.
<b>Revision information</b>	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