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	Veterinary antiparasitic (endectocide)
Recommended restrictions	Not for human use

Manufacturer/Importer/Supplier/Distributor information

Company Name (USA)	Zoetis Inc. 10 Sylvan Way Parsippany, New Jersey 07054 (USA)
Rocky Mountain Poison & Drug Safety	1-866-531-8896
Product Support/Technical Services	1-888-963-8471
Emergency telephone numbers	CHEMTREC (24 hours): 1-800-424-9300 International CHEMTREC (24 hours): +1-703-527-3887
Company Name (CA)	Zoetis Canada Inc. 16740 Trans-Canada Highway Kirkland, Quebec, H9H 4M7
Emergency telephone number	CHEMTREC (24 hours): 1-800-424-9300
Contact E-Mail	productsupport@zoetis.com
Product Support	1-800-461-0917 All Safety Data Sheets are available via our Zoetis Canada website at https://www.zoetis.ca/sds/sds.aspx
Supplier	Not available.

2. Hazard identification

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

Signal word	Danger
Hazard statement	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

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep container tightly closed. Avoid breathing mist/vapours. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
Response	IF exposed or concerned: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Supplemental information	May cause slight skin irritation.
Other hazards	Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapour. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
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

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments The exact percentage composition of this mixture has been withheld as a trade secret.

4. First-aid measures

Inhalation	For breathing difficulties, oxygen may be necessary. Call a POISON CENTRE or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. 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	Rinse mouth. Call a physician or poison control centre immediately. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Mild skin irritation.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Symptoms may be delayed.
General information	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. IF exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse. For personal protection, see section 8 of the SDS.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Alcohol resistant foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
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 firefighters	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.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards	Highly flammable liquid and vapour.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. 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 breathing mist/vapours. Avoid contact with eyes, skin, and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use appropriate containment to avoid environmental contamination. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Ensure adequate ventilation. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Extinguish all flames in the vicinity. Keep combustibles (wood, paper, oil etc) away from spilled material. Prevent product from entering drains. Prevent entry into waterways, sewer, basements or confined areas. 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. 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.
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. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling	Highly flammable. May be ignited by open flame. Obtain special instructions before use. 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. Avoid prolonged exposure. 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. For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code".
Conditions for safe storage, including any incompatibilities	Store locked up. Keep containers tightly closed in a cool, well-ventilated place. Store below 30°C (86°F) 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. Ground/bond container and equipment. These alone may be insufficient to remove static electricity.

8. Exposure controls/personal protection

Occupational exposure limits

Zoetis

Components	Type	Value
Selamectin (CAS 220119-17-5)	TWA	200 µg/m³

US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value	Form
Butylated hydroxytoluene (CAS 128-37-0)	TWA	2 mg/m3	Inhalable fraction and vapour.
DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)	TWA	50 ppm	
Isopropyl alcohol (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended

Components	Type	Value
Butylated hydroxytoluene (CAS 128-37-0)	TWA	10 mg/m3
DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)	STEL	909 mg/m3
		150 ppm
	TWA	606 mg/m3
		100 ppm
Isopropyl alcohol (CAS 67-63-0)	STEL	984 mg/m3
		400 ppm
	TWA	492 mg/m3
		200 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Butylated hydroxytoluene (CAS 128-37-0)	TWA	2 mg/m3	Vapor and aerosol, inhalable.
DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)	STEL	150 ppm	
	TWA	100 ppm	
Isopropyl alcohol (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended

Components	Type	Value	Form
Butylated hydroxytoluene (CAS 128-37-0)	TWA	2 mg/m3	Inhalable fraction and vapour.
DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)	TWA	50 ppm	
Isopropyl alcohol (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	

Canada. New Brunswick OELs: Threshold Limit Values (TLVs) Based on the 1991 and 1997 ACGIH TLVs and BEIs Publication (New Brunswick Regulation 91-191)

Components	Type	Value	Form
Butylated hydroxytoluene (CAS 128-37-0)	TWA	2 mg/m3	Inhalable fraction and vapour.
DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)	STEL	150 ppm	
	TWA	100 ppm	
Isopropyl alcohol (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended

Components	Type	Value	Form
Butylated hydroxytoluene (CAS 128-37-0)	TWA	2 mg/m3	Inhalable fraction and vapour.
DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)	STEL	150 ppm	
	TWA	100 ppm	
Isopropyl alcohol (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended

Components	Type	Value	Form
Butylated hydroxytoluene (CAS 128-37-0)	TWA	2 mg/m3	Inhalable fraction and vapour.
DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)	STEL	909 mg/m3	
		150 ppm	
	TWA	606 mg/m3	
		100 ppm	
Isopropyl alcohol (CAS 67-63-0)	STEL	1230 mg/m3	
		500 ppm	
	TWA	985 mg/m3	
		400 ppm	

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended

Components	Type	Value	Form
Butylated hydroxytoluene (CAS 128-37-0)	15 minute	4 mg/m3	Inhalable fraction and vapour.
DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)	15 minute	150 ppm	
	8 hour	100 ppm	
Isopropyl alcohol (CAS 67-63-0)	15 minute	400 ppm	
	8 hour	200 ppm	

Biological limit values

ACGIH Biological Exposure Indices (BEI)

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

Canada - Alberta OELs: Skin designation

DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)	Can be absorbed through the skin.

Canada - Ontario OELs: Skin designation

DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)	Can be absorbed through the skin.

Canada - Quebec OELs: Skin designation

DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)	Can be absorbed through the skin.

Canada - Saskatchewan OELs: Can be absorbed through the skin.

DIPROPYLENE GLYCOL METHYL ETHER (CAS 34590-94-8)	Can be absorbed through the skin.

Control banding approach Not available.

Appropriate engineering controls Explosion-proof 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 and safety shower. Industrial use: Provide adequate general and local exhaust ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves.

Industrial use: Wear appropriate chemical resistant gloves. Impervious gloves are recommended if skin contact with drug product is possible and for bulk processing operations.

Other Not normally needed.

Industrial use: 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 Not applicable.

General hygiene considerations 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

9.1 Appearance Liquid solution.

Physical state Liquid.

Form Liquid.

Colour Yellow. - Colourless.

Odour Characteristic alcohol odor.

Melting point/freezing point 194 °C (381.2 °F) estimated

Boiling point or initial boiling point and boiling range 84 °C (183.2 °F)

Flammability Not applicable.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not available.

Explosive limit – upper (%) Not available.

Flash point 19.0 °C (66.2 °F)

Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
pH	Not available.
Kinematic viscosity	Not available.
Solubility	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water) (log value)	Not available.
Vapour pressure	Not available.
Density and/or relative density	Not available.
Vapour density	Not available.
Particle characteristics	Not available.
Other information	
Explosive properties	Not explosive.
Flammability class	Flammable IB estimated
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	Hazardous polymerisation does not occur.
Conditions to avoid	Keep away from heat, spark, open flames and other sources of ignition. Sunlight. Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidising agents. Isocyanates. Chlorine. Combustible material. organic materials.
Hazardous decomposition products	Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition.

11. Toxicological information

Information on likely routes of exposure

Inhalation May cause drowsiness or 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.

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

Eye contact

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

Information on toxicological effects

Acute toxicity May be harmful if swallowed.

Components	Species	Test Results
Butylated hydroxytoluene (CAS 128-37-0)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg
Intraperitoneal		
LD50	Mouse	138 mg/kg
Oral		
LD50	Mouse	650 mg/kg
	Rat	1700 mg/kg
		890 mg/kg
Chronic		
Oral		
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)		
Acute		
Dermal		
LD50	Rabbit	9510 mg/kg
Inhalation		
Vapour		
LC50	Rat	> 3.35 mg/l, 7 hours (No deaths)
Oral		
LD50	Rat	> 5000 mg/kg
Isopropyl alcohol (CAS 67-63-0)		
Acute		
Dermal		
LD50	Rabbit	12800 mg/kg
Inhalation		
LC50	Rat	16000 ppm, 8 hours
		51.05 mg/l, 8 Hours
		30 mg/l
Oral		
LD50	Mouse	3600 mg/kg
	Rat	> 2000 mg/kg
Chronic		
Inhalation		
NOAEL	Rat	4000 ppm, 20 weeks (Liver, Central nervous system)

Components	Species	Test Results
Selamectin (CAS 220119-17-5)		
Acute		
Oral		
LD50	Mouse	> 1600 mg/kg
	Rat	> 1600 mg/kg
Subchronic		
Oral		
NOAEL	Dog	40 mg/kg/day, 3 months [Target organ(s): None identified]
	Rat	5 mg/kg/day, 3 months [Target organ(s): Liver]

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

Corrosivity

Isopropyl alcohol	Result: Irritation Species: Rabbit Severity: Mild
DIPROPYLENE GLYCOL METHYL ETHER	Species: Rabbit Severity: Mild
Selamectin	Species: Rabbit Severity: Minimal

Serious eye damage/eye irritation Causes serious eye irritation.

Eye contact

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

Respiratory or skin sensitisation

Canada - Alberta OELs: Irritant

Butylated hydroxytoluene (CAS 128-37-0)	Irritant

Respiratory sensitisation Not a respiratory sensitiser.

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

Mutagenicity

Selamectin	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 This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

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.

Canada - Manitoba OELs: carcinogenicity

Butylated hydroxytoluene (CAS 128-37-0)	Not classifiable as a human carcinogen.
Isopropyl alcohol (CAS 67-63-0)	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
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 or dizziness.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

Further information Caution - Pharmaceutical agent.

12. Ecological information

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

Components		Species	Test Results
Isopropyl alcohol (CAS 67-63-0)			
Aquatic			
Acute			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 1400 mg/l, 96 hours
Selamectin (CAS 220119-17-5)			
Aquatic			
Algae	EC50	Selenastrum capricornutum (Green Alga)	> 763 ug/l, 72 Hours
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. The following information is available for the individual ingredients.

Partition coefficient n-octanol / water (log Kow)

Selamectin	3.1, [Measured, Log P]

Mobility in soil No data available.

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 instructions	Avoid release to the environment. Do not incinerate sealed containers. 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. Do not contaminate ponds, waterways or ditches with chemical or used container.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	Industrial use: The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	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. Industrial use:
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

TDG

UN number	UN1219
UN proper shipping name	Isopropanol Solution
Transport hazard class(es)	
Class	3
Subsidiary hazard	-
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.

IATA

UN number	UN1219
UN proper shipping name	Isopropanol Solution
Transport hazard class(es)	
Class	3
Subsidiary hazard	-
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 hazard	-
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.

IATA; IMDG; TDG

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

Canadian regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

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 Industrial Chemicals (AICIS)	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

Country(s) or region	Inventory name	On inventory (yes/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

Issue date	30-May-2017
Revision date	24-April-2024
Version No.	03
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	This document has undergone significant changes and should be reviewed in its entirety.