

MATERIAL SAFETY DATA SHEET

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Section I - IDENTITY

Trade Name: SELAVECTINE™

Common: Selamectin topical solution- single dose tubes

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Section II - COMPOSITION/INFORMATION ON INGREDIENTS

Component	%	CAS#
Isopropanol	76-88	67-63-0
Selamectin	6-12	220119-17-5
Butylated Hydroxytoluene (Bht)	<1	128-37-0
DIPROPYLENE GLYCOL METHYL ETHER	<1	34590-94-8

Section III - HAZARDS IDENTIFICATION

Signal word

Statements of hazard

Danger.

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.

Eye

Short term effects

Serious eye damage/eye irritation including stinging, tearing, redness, swelling, and blurred vision.

Long term effects

Not known; see short-term effects above.

Skin

Short term effects

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

Long term effects

Not known; see short-term effects above.

Other

Short term effects

May cause drowsiness and dizziness, headache, nausea, vomiting, behavioral changes, narcosis, and/or respiratory irritation. Prolonged inhalation may be harmful.

Long term effects

Prolonged exposure may cause chronic effects.

Section IV - FIRST AID MEASURES

Eyes	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses if easy to do and continue rinsing. Get medical attention immediately.
Skin	Remove contaminated clothing immediately and wash off with soap and water. If irritation or rash occurs or persists or you feel unwell, get medical attention. Wash contaminated clothes before reuse.
Ingestion	Rinses mouth and call a physician or poison control centre immediately. Do not induce vomiting without getting advice from poison control centre. Never give anything by mouth to an unconscious person or someone who is having convulsions.
Inhalation	Move to fresh air. Call a POISON CENTRE or doctor if you feel unwell or symptoms develop or persist. For breathing difficulties, oxygen may be necessary.

Section V - FIRE FIGHTING MEASURES

General hazard	Highly flammable liquid and vapour. Vapours are heavier than air and may form explosive mixtures with air and may travel considerable distance to a source of ignition and flash back. Fine particles/mists may fuel fires/explosions. During fire, gases hazardous to health may be formed.
Fire fighting instructions	Wear full protective clothing and self-contained breathing apparatus in case of fire. In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Extinguisher to use	Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO ₂). Do not use water jet as an extinguisher or the fire will spread.
Flash point	Not known
Autoignition	Not known
Minimum explosive concentration for dust/vapor	Not known
Hazardous combustion products	Not known
Flammability limits	Not known

Section VI - ACCIDENTAL RELEASE MEASURES

Occupational spill Keep unnecessary personnel and people away from and upwind of the spill. Ventilate the area and eliminate ignition sources such as smoking, flares, sparks, and flames as well as combustibles like wood, paper, oil etc. from the immediate area. Wear appropriate protective equipment and clothing for clean up (don't touch damaged containers or spilled materials without it) and do not breathe the mist or vapour. Avoid contact with eyes, skin, and clothes. Absorb spill with vermiculite or other inert material and clean surface to remove residual contamination. Use only non-sparking tools and prevent product from entering drains, waterways, sewer, basements, and confined areas. To avoid environmental contamination, use appropriate containment and advise local authorities if a significant spill cannot be contained.

Clean up - large spill Ground container and transfer equipment to eliminate static electric sparks. Stop flow of material, if this is without risk and use water spray to disperse vapors and dilute spill to a nonflammable mixture. Use non-combustible material like vermiculite, sand or earth to soak up the product and place into a container to dispose of later. Clean surface to remove residual contamination.

Section VII - HANDLING AND STORAGE

General handling Keep away from heat (highly flammable.) Read all safety precautions before handling. May be ignited by open flame and vapours may form explosive mixtures with air so don't handle, store or open near an open flame, sources of heat or ignition. Protect from direct sunlight and use with adequate ventilation. Do not breathe mist or vapour, get in eyes, or on skin or clothing. Avoid prolonged exposure and wear proper personal protective. Wash thoroughly after handling and observe good industrial hygiene practices. Do not eat, drink, or smoke when using and avoid release into the environment.

Storage Store locked up, tightly closed in cool, well-ventilated place between 15-30°C. Keep away from heat, sparks, open flames, or other sources of ignition and incompatible materials. Keep out of reach of children.

Section VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure limits

Components

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

US. ACGIH Threshold Limit Values - Components

Butylated Hydroxytoluene (Bht) (CAS 128-37-0) Type: TWA Value: 2 mg/m³
Form: Inhalable fraction and vapor

Dipropylene Glycol Methyl Ether (CAS 34590-94-8) Type: STEL Value: 150 ppm
Type: TWA Value: 100 ppm

Isopropanol (CAS 67-63-0) Type: STEL Value: 400 ppm
Type: TWA Value: 200 ppm

Canada. Alberta OELs (Occupational Healthy & Safety Code, Schedule 1, Table 2) - Components

Butylated Hydroxytoluene (Bht) (CAS 128-37-0) Type: TWA Value: 10 mg/m³

Dipropylene Glycol Methyl Ether (CAS 34590-94-8) Type: STEL Value: 909 mg/m³
150ppm
Type: TWA Value: 606 mg/m³
100 ppm

Isopropanol (CAS 67-63-0) Type: STEL Value: 984 mg/m³
400 ppm
Type: TWA Value: 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

Butylated Hydroxytoluene (Bht) (CAS 128-37-0) Type: TWA Value: 2 mg/m³
Form: Vapor and aerosol, inhalable.

Dipropylene Glycol Methyl Ether (CAS 34590-94-8) Type: STEL Value: 150 ppm
Type: TWA Value: 100 ppm

Isopropanol (CAS 67-63-0) Type: STEL Value: 400 ppm
Type: TWA Value: 200 ppm

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety and Health Act) - Components

Butylated Hydroxytoluene (Bht) (CAS 128-37-0) Type: TWA Value: 2 mg/m3
Form: Inhalable fraction and vapor.
Dipropylene Glycol Methyl Ether (CAS 34590-94-8) Type: STEL Value: 150 ppm
Type: TWA Value: 100 ppm
Isopropanol (CAS 67-63-0) Type: STEL Value: 400 ppm
Type: TWA Value: 200 ppm

Canada. Ontario OELs (Control of Exposure to Biological or Chemical Agents) - Components

Butylated Hydroxytoluene (Bht) (CAS 128-37-0) Type: TWA Value: 2 mg/m3
Form: Inhalable fraction and vapor.
Dipropylene Glycol Methyl Ether (CAS 34590-94-8) Type: STEL Value: 150 ppm
Type: TWA Value: 100 ppm
Isopropanol (CAS 67-63-0) Type: STEL Value: 400 ppm
Type: TWA Value: 200 ppm

Canada. Quebec OELs (Ministry of Labour – Regulation Respecting the Quality of the Work Environment) - Components

Butylated Hydroxytoluene (Bht) (CAS 128-37-0) Type: TWA Value: 10 mg/m3
Dipropylene Glycol Methyl Ether (CAS 34590-94-8) Type: STEL Value: 909 mg/m3
Value: 150 ppm
Type: TWA Value: 606 mg/m3
Value: 100 ppm
Isopropanol (CAS 67-63-0) Type: STEL Value: 1230 mg/m3
Value: 500 ppm
Type: TWA Value: 983 mg/m3
Value: 400 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components: Isopropanol (CAS 67-63-0) Value: 40 mg/l Determinant: Acetone
Specimen: Urine Sampling Time: 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 – British Columbia OELs: Skin designation

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

Canada – Manitoba 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: Skin designation

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

US ACGIH Threshold Limit Values: Skin designation

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

Ventilation	Ensure adequate ventilation, especially in confined areas. Good ventilation (10 air changes per hour) should be used and 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 haven't been established, maintain airborne levels to an acceptable level.
Eye protection	Wear safety glasses or goggles if eye contact is possible.
Skin protection	Wear suitable protective clothing. Impervious clothing recommended if skin contact with drug product is possible and for bulk processing operations.
Hand protection	Wear appropriate chemical resistant gloves. Impervious gloves are recommended if skin contact with drug product is possible and for bulk processing operations.
Respiratory protection	No personal respiratory protection equipment is normally required. In case of insufficient ventilation, wear suitable respiratory equipment. Whenever air contamination (mist, vapor or odor) is generated, respiratory protection is recommended as a precaution to minimize exposure. If the applicable Occupational Exposure Limit (OEL) is exceeded, wear an appropriate respirator with protection factor sufficient to control exposures to below the OEL.

Section IX - PHYSICAL AND CHEMICAL PROPERTIES

Physical form	Liquid
Color	Yellow - Colorless.
Odor	Characteristic alcohol odor
pH	Not known
Melting point	194°C (381.2°F) estimated
Initial boiling point	84°C (183.2°F)
Flash point	19°C (66.2°F)
Vapor pressure	Not known
Water solubility	Miscible

Section X - STABILITY AND REACTIVITY

Reactivity	Stable and non-reactive under normal conditions.
Conditions to avoid	Contact with incompatible materials. Sunlight. Keep away from heat, spark, open flames, and other sources of ignition.
Incompatibilities	Acids, strong oxidising agents, isocyanates, chlorine, combustible material, organic materials

Hazardous decomposition products

Irritating and/or toxic fumes and gases may be emitted upon product decomposition

Section XI - TOXICOLOGICAL INFORMATION

Skin Contact

DIPROPYLENE GLYCOL METHYL ETHER	Species: Rabbit	Severity: Mild
Isopropanol	Species: Rabbit	Severity: Mild
Selamectin	Species: Rabbit	Severity: Minimal
Butylated Hydroxytoluene (Bht)	Species: Rabbit	Severity: Moderate

Eye Contact

DIPROPYLENE GLYCOL METHYL ETHER	Species: Rabbit	Severity: Mild
Isopropanol	Species: Rabbit	Severity: Severe
Selamectin	Species: Rabbit	Severity: Mild
Butylated Hydroxytoluene (Bht)	Species: Rabbit	Severity: Moderate

Eye	Severe eye irritation such as stinging, tearing, redness, swelling, blurry vision
Skin	Mild skin irritation
Inhalation	May cause respiratory irritation
Ingestion	Health injuries are not known or expected under normal use, but may be harmful if swallowed.

Mutagenicity No data available.**Subchronic effects** No data available.**Acute toxicity** In high concentration, vapours are anaesthetic and may cause headache, fatigue, dizziness, and central nervous system effects

Butylated Hydroxytoluene (Bht) (CAS 128-37-0)

Acute

Intraperitoneal: LD50	Species: Mouse	Test Results: 138 mg/kg
Oral: LD50	Species: Mouse	Test Results: 650 mg/kg
	Species: Rat	Test Results: 1700 mg/kg

Chronic

Oral: LOAEL	Species: Mouse	Test Results: 2000 mg/kg, 4 days Liver Kidney Ureter Bladder
	Species: Rat	Test Results: 5185 mg/kg, 4 weeks Liver

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

Acute

Dermal: LD50	Species: Rabbit	Test Results: 10 ml/kg
Oral: LD50	Species: Dog	Test Results: 7500 mg/kg
	Species: Rat	Test Results: 5400 µL/kg

Isopropanol (CAS 67-63-0)

Acute

Dermal:	Species: Rabbit	Test Results: Mild Irritation
LD50	Species: Rabbit	Test Results: 12800 mg/kg
Inhalation: LD50	Species: Rat	Test Results: 16000 ppm, 8 hours
		Test Results: 30 mg/l
Oral: LD50	Species: Mouse	Test Results: 3600 mg/kg

Other:	Species: Rat	Test Results: > 2000 mg/kg
Chronic	Species: Rabbit	Test Results: Ocular, Severe irritation
Inhalation: NOAEL	Species: Rat	Test Results: 4000 ppm, 20 weeks Liver Central nervous system

Selamectin (CAS 220119-17-5)

Acute

Oral: LD50	Species: Mouse	Test Results: > 1600 mg/kg
	Species: Rat	Test Results: > 1600 mg/kg

Subchronic

Oral: NOAEL	Species: Dog	Test Results: 40 mg/kg/day, 3 months [Target organ(s): None identified]
	Species: Rat	Test Results: 5 mg/kg/day, 3 months [Target organ(s): Liver]

Skin corrosion/irritation

Corrosivity

Selamectin	Species: Rabbit	Severity: Minimal
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Serious eye damage/eye irritation

Eye contact

DIPROPYLENE GLYCOL METHYL ETHER	Species: Rabbit	Severity: Mild
Selamectin	Species: Rabbit	Severity: Mild
Butylated Hydroxytoluene (Bht)	Species: Rabbit	Severity: Moderate
Isopropanol	Species: Rabbit	Severity: Severe

Respiratory or skin sensitisation

Canada – Alberta OELs: Irritant

Butylated Hydroxytoluene (Bht) (CAS 128-37-0) Irritant

Respiratory Sensitisation Not a respiratory sensitizer

Skin Sensitisation This product is not expected to cause skin sensitization

Selamectin	GPMT	Species: Guinea Pig	Severity: Negative
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Germ cell mutagenicity

No data available to indicate product or components greater than 0.1% are mutagenic or genotoxic

Mutagenicity

Selamectin

Bacterial Mutagenicity (Ames)	Result: negative	Species: Salmonella
In Vitro Cytogenetics	Result: negative	Species: Human lymphocytes
In Vivo Micronucleus	Result: negative	Species: Mouse
Maammalian Cell Mutagenicity	Result: negative	Species: Chinese Hamster Ovary (CHO) cells HGPRT

Isopropanol

Bacterial Mutagenicity (Ames)	Result: negative	Species: Salmonella
In Vitro Sister Chromatid Exchange	Result: negative	

Carcinogenicity

AGIH Carcinogens

Butylated Hydroxytoluene (Bht) (CAS 128-37-0)	A4 Not classifiable as a human carcinogen
Isopropanol (CAS 67-63-0)	A4 Not classifiable as a human carcinogen

Canada – Manitoba OELs: carcinogenicity

Butylated Hydroxytoluene (Bht) (CAS 128-37-0) Not classifiable as a human carcinogen

Isopropanol (CAS 67-63-0) Not classifiable as a human carcinogen

IARC Monographs. Overall Evaluation of Carcinogenicity

Butylated Hydroxytoluene (Bht) (CAS 128-37-0) 3 Not classifiable as to carcinogenicity to humans

Reproductive Toxicity**Developmental effects**

Selamectin	10 mg/kg/day Prenatal & Postnatal Development, Developmental toxicity		
	Result: NOAEL	Species: Rat	
Isopropanol	1200 mg/kg/day Prenatal & Postnatal Development, no effects at max. 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 (Bht)	6 g/kg Embryo / Fetal Development, teratogenic		
	Result: LOEL	Species: Rat	Organ: Oral
Isopropanol	7000 ppm Prenatal & Postnatal Development, Maternal toxicity Fetotoxicity Embryotoxicity		
	Result: LOAEL	Species: Rat	Organ: Inhalation

Reproductivity

Selamectin	10 mg/kg/day Reproductive & Fertility, Fetotoxicity		
	Result: NOAEL	Species: Rat	
Isopropanol	1000 mg/kg/day 2 Generation Reproductive Toxicity, Maternal Toxicity Fetal mortality		
	Result: LOAEL	Species: Rat	Organ: Oral

Chronic toxicity See Chronic effects/Carcinogenicity below.**Chronic effects/Carcinogenicity** Prolonged inhalation may be harmful. Not considered a carcinogen.**OSHA carcinogen** No**NTP carcinogen** No**IARC carcinogen** No**Reproductive effects** Suspected of damaging fertility or the unborn child**Teratogenicity** No data available.**Section XII - ECOLOGICAL INFORMATION****Environmental overview** Very toxic to aquatic life with long lasting effects, so avoid release to the environment

Isopropanol (CAS 67-63-0)

AquaticFish LC50 Species: Bluegill (*Lepomis macrochirus*) Test Results: > 1400 mg/l, 96 hours

Selamectin (CAS 220119-17-5)

EC50 Species: *Daphnia magna* (Water Flea) Test Results: 26 ng/L, 48 hoursSpecies: *Selenastrum capricornutum* (Green Alga) Test Results: > 763 µg/L, 72 hoursLC50 Species: *Cyprinodon* (Sheepshead Minnow) Test Results: > 28 µg/L, 48 hoursSpecies: *Mysidopsis bahia* (Mysid Shrimp) Test Results: 28 ng/L, 96 hours

Section XIII - DISPOSAL INFORMATION

Disposal procedure Avoid release into the environment and don't discharge into drains, water courses or the ground. Do not contaminate ponds, waterways or ditches with chemical or used containers. Practice waste minimization and dispose of content/container in accordance with local/regional/international regulations.

Section XIV - TRANSPORTATION INFORMATION

Proper shipping name Isopropanol Solution, Marine pollutant (Selamectin)
Transport Hazard class 3

Section XV - REGULATORY INFORMATION

Canadian regulations

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

Section XVI - OTHER DATA

This MSDS does not address therapeutic use of this material.

The information provided is believed to be complete and accurate. It is the user's responsibility to use the information according to their application. Modern Veterinary Therapeutics, LLC assumes no additional liability or responsibility resulting from the use of or reliance on this information.