SAFETY DATA SHEETS

This SDS packet was issued with item:

078929633

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

078929637

MATERIAL SAFETY DATA SHEET

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

Pfizer Animal Health
Pfizer Inc
235 East 42nd Street
New York, NY 10017
Poison Control Center Phone: 1-866-531-8896
Technical Services Phone: 1-800-366-5288
Emergency telephone number:
CHEMTREC (24 hours): 1-800-424-9300
Contact E-Mail: pfizer-MSDS@pfizer.com

Pfizer Ltd
Ramsgate Road
Sandwich, Kent
CT13 9NJ
United Kingdom
+00 44 (0)1304 616161
Emergency telephone number:
International CHEMTREC (24 hours): +1-703-527-3887

Material Name: Selamectin topical solution- Single dose tubes

Trade Name:	REVOLUTION; STRONGHOLD; PARADYNE
Synonyms:	Selamectin formulation
Chemical Family:	Mixture
Intended Use:	Veterinary product used as Antiparasitic (veterinary); endectocide
Restrictions on Use:	Not for human use

2. HAZARDS IDENTIFICATION

Appearance: Colorless to pale yellow solution
Signal Word: WARNING

Statement of Hazard:
Flammable liquid and vapor.
Causes eye irritation.
Suspected of damaging fertility or the unborn child.
May cause drowsiness or dizziness.
Very toxic to aquatic life.

Additional Hazard Information:

Short Term: Not acutely toxic (based on components) .

Long Term: Prolonged or repeated contact may cause defatting dermatitis (dryness and cracking of the skin). Repeat-dose studies in animals have shown a potential to cause adverse effects on : liver, reproductive system, and the developing fetus.

EU Indication of danger:
Flammable
Irritant
Toxic to Reproduction: Category 3
Dangerous for the Environment

EU Hazard Symbols:

F Xn N

EU Risk Phrases:

2. HAZARDS IDENTIFICATION

R11 - Highly flammable.
R36 - Irritating to eyes.
R50 - Very toxic to aquatic organisms.
R62 - Possible risk of impaired fertility.
R63 - Possible risk of harm to the unborn child.
R67 - Vapors may cause drowsiness and dizziness.

Australian Hazard Classification (NOHSC): Hazardous Substance. Dangerous Goods.

Note: This document has been prepared in accordance with standards for workplace safety, which require the inclusion of all known hazards of the product or its ingredients regardless of the potential risk. The precautionary statements and warnings included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous

Ingredient	CAS Number	EU EINECS/ELINCS List	EU Classification	%
Selamectin	165108-07-6	Not Listed	N;R50 Repr. Cat.3;R62-63	7.4 - 14.2
Dipropylene glycol methyl ether	34590-94-8	252-104-2	Not Listed	*
Butylated hydroxytoluene	128-37-0	204-881-4	Not Listed	*
Isopropyl alcohol	67-63-0	200-661-7	F;R11 R67 Xi;R36	72.5 - 85.6

Additional Information: * Proprietary
Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety.

For the full text of the R phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

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

Skin Contact: Remove contaminated clothing. Flush area with large amounts of water. Use soap. Seek medical attention.

Ingestion: Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately.

Inhalation: Remove to fresh air and keep patient at rest. Seek medical attention immediately.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Carbon dioxide, dry chemical, or foam

Hazardous Combustion Products: Formation of toxic gases is possible during heating or fire.

Fire Fighting Procedures:	During all fire fighting activities, wear appropriate protective equipment, including self-contained breathing apparatus.
Fire / Explosion Hazards:	Flammable liquid. Vapors will form flammable or explosive mixtures with air at room temperature.

6. ACCIDENTAL RELEASE MEASURES

Health and Safety Precautions:	Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure. Eliminate all sources of ignition and ventilate area using explosion-proof equipment.
Measures for Cleaning / Collecting:	Contain the source of spill if it is safe to do so. Collect spill with absorbent material. Clean spill area thoroughly.
Measures for Environmental Protections:	Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.
Additional Consideration for Large Spills:	Non-essential personnel should be evacuated from affected area. Report emergency situations immediately. Clean up operations should only be undertaken by trained personnel.

7. HANDLING AND STORAGE

General Handling:	Eliminate possible ignition sources (e.g., heat, sparks, flame, impact, friction, electricity), and follow appropriate grounding and bonding procedures. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. When handling, use appropriate personal protective equipment (see Section 8). Wash hands and any exposed skin after removal of PPE. Releases to the environment should be avoided. Review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure or environmental releases. Potential points of process emissions of this material to the atmosphere should be controlled with dust collectors, HEPA filtration systems or other equivalent controls.
Storage Conditions:	Store as directed by product packaging.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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

Selamectin

Pfizer OEL TWA-8 Hr:	200µg/m^3

Dipropylene glycol methyl ether

ACGIH Threshold Limit Value (TWA)	100 ppm
ACGIH Threshold Limit Value (STEL)	150 ppm
ACGIH - Skin Absorption Designation	Skin - potential significant contribution to overall exposure by the cutaneous route
Australia TWA	50 ppm 308 mg/m^3
Austria OEL - MAKs	50 ppm 307 mg/m^3
Belgium OEL - TWA	50 ppm 308 mg/m^3
Bulgaria OEL - TWA	308.0 mg/m^3
Cyprus OEL - TWA	50 ppm 308 mg/m^3

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Czech Republic OEL - TWA	270 mg/m^3
Denmark OEL - TWA	50 ppm 309 mg/m^3
Estonia OEL - TWA	50 ppm 308 mg/m^3
Finland OEL - TWA	50 ppm 310 mg/m^3
France OEL - TWA	50 ppm 308 mg/m^3
Germany - TRGS 900 - TWAs	50 ppm 310 mg/m^3
Germany (DFG) - MAK	50 ppm 310 mg/m^3 mixture of isomers
Greece OEL - TWA	100 ppm 600 mg/m^3
Hungary OEL - TWA	308 mg/m^3
Ireland OEL - TWAs	50 ppm 308 mg/m^3
Italy OEL - TWA	50 ppm 308 mg/m^3
Latvia OEL - TWA	50 ppm 308 mg/m^3
Lithuania OEL - TWA	50 ppm 300 mg/m^3
Malta OEL - TWA	50 ppm 308 mg/m^3
Netherlands OEL - TWA	300 mg/m^3
OSHA - Final PELS - TWAs:	100 ppm 600 mg/m^3
OSHA - Final PELs - Skin Notations:	prevent or reduce skin absorption
Poland OEL - TWA	240 mg/m^3
Portugal OEL - TWA	100 ppm
Romania OEL - TWA	50 ppm 308 mg/m^3 18 ppm 300 mg/m^3
Slovakia OEL - TWA	50 ppm 308 mg/m^3
Slovenia OEL - TWA	50 ppm 308 mg/m^3
Spain OEL - TWA	50 ppm 308 mg/m^3
Sweden OEL - TWAs	50 ppm 300 mg/m^3

Butylated hydroxytoluene

ACGIH Threshold Limit Value (TWA)	2 mg/m^3
Australia TWA	10 mg/m^3
Austria OEL - MAKs	10 mg/m^3
Belgium OEL - TWA	2 mg/m^3
Bulgaria OEL - TWA	10.0 mg/m^3
Denmark OEL - TWA	10 mg/m^3
Finland OEL - TWA	10 mg/m^3

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

France OEL - TWA	10 mg/m^3
Germany - TRGS 900 - TWAs	10 mg/m^3
Germany (DFG) - MAK	10 mg/m^3
Greece OEL - TWA	10 mg/m^3
Ireland OEL - TWAs	10 mg/m^3
Portugal OEL - TWA	2 mg/m^3
Slovenia OEL - TWA	10 mg/m^3

Isopropyl alcohol

ACGIH Threshold Limit Value (TWA)	200 ppm
ACGIH Threshold Limit Value (STEL)	400 ppm
ACGIH - Biological Exposure Limit:	40 mg/L
Australia STEL	500 ppm 1230 mg/m^3
Australia TWA	400 ppm 983 mg/m^3
Austria OEL - MAKs	200 ppm 500 mg/m^3
Belgium OEL - TWA	200 ppm 500 mg/m^3
Bulgaria OEL - TWA	980.0 mg/m^3
Czech Republic OEL - TWA	500 mg/m^3
Denmark OEL - TWA	200 ppm 490 mg/m^3
Estonia OEL - TWA	150 ppm 350 mg/m^3
Finland OEL - TWA	200 ppm 500 mg/m^3
Germany - TRGS 900 - TWAs	200 ppm 500 mg/m^3
Germany (DFG) - MAK	200 ppm 500 mg/m^3
Germany - Biological Exposure Limit:	50 mg/L
Greece OEL - TWA	400 ppm 980 mg/m^3
Hungary OEL - TWA	500 mg/m^3
Ireland OEL - TWAs	200 ppm
Japan - OELs - Ceilings	400 ppm 980 mg/m^3
Latvia OEL - TWA	350 mg/m^3
Lithuania OEL - TWA	150 ppm 350 mg/m^3
OSHA - Final PELS - TWAs:	400 ppm 980 mg/m^3
Poland OEL - TWA	900 mg/m^3
Portugal OEL - TWA	200 ppm
Romania OEL - TWA	81 ppm 200 mg/m^3
Romania - Biological Exposure Limit:	50 mg/L
Slovakia OEL - TWA	200 ppm 500 mg/m^3
Slovenia OEL - TWA	200 ppm 500 mg/m^3

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Spain OEL - TWA	200 ppm 500 mg/m^3
Spain - Biological Exposure Limit:	40 mg/L
Sweden OEL - TWAs	150 ppm 350 mg/m^3

Analytical Method: Analytical method available for selamectin. Contact Pfizer Inc for further information.
Engineering Controls: Engineering controls should be used as the primary means to control exposures. General room ventilation is adequate unless the process generates dust, mist or fumes. Keep airborne contamination levels below the exposure limits listed above in this section.
Environmental Exposure Controls: Refer to specific Member State legislation for requirements under Community environmental legislation.
Personal Protective Equipment: Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE).

Hands: Impervious gloves are recommended if skin contact with drug product is possible and for bulk processing operations.
Eyes: Wear safety glasses or goggles if eye contact is possible.
Skin: Impervious protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations.
Respiratory protection: 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solution	**Color:**	Yellow to colorless
Odor:	Characteristic alcohol odor	**Molecular Formula:**	Mixture
Molecular Weight:	Mixture		

Solubility:	Miscible: Water
Boiling Point (°C):	84
Relative Density:	0.815 - 0.847

Flash Point (Liquid) (°C):	19
Polymerization:	Will not occur

10. STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions of use.
Conditions to Avoid: Fine particles (such as dust and mists) may fuel fires/explosions.
Incompatible Materials: As a precautionary measure, keep away from strong oxidizers

11. TOXICOLOGICAL INFORMATION

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

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

Isopropyl alcohol

11. TOXICOLOGICAL INFORMATION

Rat Oral LD50 > 2000 mg/kg
Mouse Oral LD50 3600 mg/kg
Rat Inhalation LC50-8h 16,000 ppm
Rabbit Dermal LD50 12800 mg/kg
Rat Inhalation LC50 30 mg/L

Dipropylene glycol methyl ether
Dog Oral LD50 7500 mg/kg
Rat Oral LD 50 5400 µL/kg
Rabbit Dermal LD 50 10 mL/kg

Butylated hydroxytoluene
Rat Oral LD50 1700 mg/kg
Mouse Oral LD50 650 mg/kg
Rat Oral LD50 890 mg/kg
Mouse Intraperitoneal LD 50 138 mg/kg

Selamectin
Rat Oral LD50 > 1600 mg/kg
Mouse Oral LD50 > 1600 mg/kg

Acute Toxicity Comments: A greater than symbol (>) indicates that the toxicity endpoint being tested was not achievable at the highest dose used in the test.

Irritation / Sensitization: (Study Type, Species, Severity)

Isopropyl alcohol
Eye Irritation Rabbit Severe
Skin Irritation Rabbit Mild

Dipropylene glycol methyl ether
Skin Irritation Rabbit Mild
Eye Irritation Rabbit Mild

Butylated hydroxytoluene
Eye Irritation Rabbit Moderate
Skin Irritation Rabbit Moderate

Selamectin
Eye Irritation Rabbit Mild
Skin Irritation Rabbit Minimal
Skin Sensitization - GPMT Guinea Pig Negative

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

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

Butylated hydroxytoluene
4 Week(s) Rat Oral 5185 mg/kg LOAEL Liver
4 Day(s) Mouse Oral 2000 mg/kg LOAEL Liver, Kidney, Ureter, Bladder

Selamectin

11. TOXICOLOGICAL INFORMATION

3 Month(s) Rat Oral 5 mg/kg/day NOAEL Liver
3 Month(s) Dog Oral 40 mg/kg/day NOAEL None identified

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

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

Butylated hydroxytoluene
Embryo / Fetal Development Rat Oral 6 g/kg LOEL Teratogenic

Selamectin
Reproductive & Fertility Rat 10 mg/kg/day NOAEL Fetotoxicity
Prenatal & Postnatal Development Rat 10 mg/kg/day NOAEL Developmental toxicity
Prenatal & Postnatal Development Rat Oral 40 mg/kg/day NOAEL Maternal Toxicity

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

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

Selamectin
Bacterial Mutagenicity (Ames) *Salmonella* Negative
In Vitro Cytogenetics Human Lymphocytes Negative
In Vivo Micronucleus Mouse Negative
Mammalian Cell Mutagenicity Chinese Hamster Ovary (CHO) cells HGPRT Negative

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

Isopropyl alcohol
IARC: Group 3 (Not Classifiable)

Butylated hydroxytoluene
IARC: Group 3 (Not Classifiable)

12. ECOLOGICAL INFORMATION

Environmental Overview: This mixture contains material that is toxic to aquatic life. Bioaccumulation and/or long term effects are not expected. Releases to the environment should be avoided.
Bioaccumulation and Toxicity: High acute toxicity to aquatic organisms is expected. See aquatic toxicity data, below.

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

Selamectin
Daphnia magna (Water Flea) OECD EC50 48 Hours 26 ng/L
Mysidopsis bahia (Mysid Shrimp) LC50 96 Hours 28 ng/L
Cyprinodon variegatus (Sheepshead Minnow) LC50 48 Hours > 500 ug/L
Selenastrum capricornutum (Green Alga) OECD EC50 72 Hours >763 ug//L

12. ECOLOGICAL INFORMATION

Oncorhynchus mykiss (Rainbow Trout) OECD LC50 96 Hours 266 ug/L

Aquatic Toxicity Comments: A greater than (>) symbol indicates that acute ecotoxicity was not observed at the maximum solubility. Since the substance is insoluble in aqueous solutions above this concentration, an acute ecotoxicity value (i.e. LC/EC50) is not achievable.

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods: Dispose of waste in accordance with all applicable laws and regulations. Member State specific and Community specific provisions must be considered. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater.

14. TRANSPORT INFORMATION

The following refers to all modes of transportation unless specified below.

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

UN number: UN 1219
UN proper shipping name: Isopropanol Solution
Transport hazard class(es): 3
Packing group: II
Environmental Hazard(s): Marine Pollutant (Selamectin)
Flash Point (°C): 19

Flash Point (°C): 19

15. REGULATORY INFORMATION

EU Symbol: F ; Xn ; N
EU Indication of danger: Flammable
Irritant
Toxic to Reproduction: Category 3
Dangerous for the Environment

EU Risk Phrases:

R11 - Highly flammable.
R36 - Irritating to eyes.
R50 - Very toxic to aquatic organisms.
R62 - Possible risk of impaired fertility.
R63 - Possible risk of harm to the unborn child.
R67 - Vapors may cause drowsiness and dizziness.

EU Safety Phrases:

15. REGULATORY INFORMATION

S16 - Keep away from sources of ignition - No smoking.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37 - Wear suitable protective clothing and gloves.
S53 - Avoid exposure - obtain special instructions before use.
S57 - Use appropriate containment to avoid environmental contamination.

OSHA Label:
WARNING
Flammable liquid and vapor.
Causes eye irritation.
Suspected of damaging fertility or the unborn child.
May cause drowsiness or dizziness.
Very toxic to aquatic life.

Canada - WHMIS: Classifications

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

Dipropylene glycol methyl ether

Inventory - United States TSCA - Sect. 8(b)	Present
Australia (AICS):	Present
EU EINECS/ELINCS List	252-104-2

Butylated hydroxytoluene

Inventory - United States TSCA - Sect. 8(b)	Present
Australia (AICS):	Present
EU EINECS/ELINCS List	204-881-4

Isopropyl alcohol

CERCLA/SARA 313 Emission reporting	1.0 %
Inventory - United States TSCA - Sect. 8(b)	Present
Australia (AICS):	Present
EU EINECS/ELINCS List	200-661-7

16. OTHER INFORMATION

Text of R phrases mentioned in Section 3

R11 - Highly flammable.
R36 - Irritating to eyes.
R50 - Very toxic to aquatic organisms.
R62 - Possible risk of impaired fertility.
R63 - Possible risk of harm to the unborn child.
R67 - Vapors may cause drowsiness and dizziness.

Data Sources: Publicly available toxicity information. Pfizer proprietary drug development information. Safety data sheets for individual ingredients.

Reasons for Revision: Updated Section 1 - Identification of the Substance/Preparation and the Company/Undertaking.

Prepared by: Product Stewardship Hazard Communication
Pfizer Global Environment, Health, and Safety Operations

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

End of Safety Data Sheet

SAFETY DATA SHEET

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

Product Identifier

Material Name: Selamectin topical solution- Single dose tubes

Trade Name: REVOLUTION; STRONGHOLD; PARADYNE
Synonyms: Selamectin formulation
Chemical Family: Mixture

Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Intended Use: Veterinary product used as Antiparasitic (veterinary); endectocide
Restrictions on Use: Not for human use

Details of the Supplier of the Safety Data Sheet

Zoetis Inc.
100 Campus Drive, P.O. Box 651
Florham Park, New Jersey 07932 (USA)
Rocky Mountain Poison and Drug Center Phone: 1-866-531-8896
Product Support/Technical Services Phone: 1-800-366-5288

Zoetis Belgium S.A.
Mercuriusstraat 20
1930 Zaventem
Belgium

Emergency telephone number:
CHEMTREC (24 hours): 1-800-424-9300

Emergency telephone number:
International CHEMTREC (24 hours): +1-703-527-3887

Contact E-Mail: VMIPSrecords@zoetis.com

2. HAZARDS IDENTIFICATION

Appearance: Colorless to pale yellow solution

Classification of the Substance or Mixture

GHS - Classification

Serious Eye Damage/Eye Irritation: Category 2A
Reproductive Toxicity: Category 2
Specific target organ systemic toxicity (single exposure): Category 3
Acute aquatic toxicity: Category 2
Chronic aquatic toxicity: Category 2
Flammable liquids- Category 2

Label Elements

Signal Word: Danger
Hazard Statements: H225 - Highly flammable liquid and vapor
H336 - May cause drowsiness and dizziness
H319 - Causes serious eye irritation
H361 - Suspected of damaging fertility or the unborn child
H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements:

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P233 - Keep container tightly closed
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical/ventilating/lighting/equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P264 - Wash hands thoroughly after handling
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P271 - Use only outdoors or in a well-ventilated area
P273 - Avoid release to the environment
P308 + P313 - IF exposed or concerned: Get medical attention/advice
P312 - Call a POISON CENTRE/doctor/physician if you feel unwell
P370 + P378 - In case of fire: Use CO2, dry chemical or foam for extinction
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P405 - Store locked up
P403 + P235 - Store in a well-ventilated place. Keep cool
P501 - Dispose of contents/container in accordance with all local and national regulations

Other Hazards

Short Term: Not acutely toxic (based on components) . May cause slight skin irritation.

Long Term: Prolonged or repeated contact may cause defatting dermatitis (dryness and cracking of the skin). Repeat-dose studies in animals have shown a potential to cause adverse effects on : liver, reproductive system, and the developing fetus.

Australian Hazard Classification (NOHSC): Hazardous Substance. Dangerous Goods.

Note: This document has been prepared in accordance with standards for workplace safety, which require the inclusion of all known hazards of the product or its ingredients regardless of the potential risk. The precautionary statements and warnings included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous

Ingredient	CAS Number	EU EINECS/ELINCS List	GHS Classification	%

3. COMPOSITION/INFORMATION ON INGREDIENTS

Isopropyl alcohol	67-63-0	200-661-7	STOT SE 3 (H336) Flam. Liq. 2 (H225) Eye Irrit. 2A (H319)	72 - 86
Selamectin	220119-17-5	Not Listed	Repr.2 (H361) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	7 - 15
Dipropylene glycol methyl ether	34590-94-8	252-104-2	Not Listed	<1.0
Butylated hydroxytoluene	128-37-0	204-881-4	Not Listed	<1.0

Additional Information: Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety. In accordance with 29 CFR 1910.1200, the exact percentage composition of this mixture has been withheld as a trade secret.

For the full text of the CLP/GHS abbreviations mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Description of First Aid Measures

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

Skin Contact: Remove contaminated clothing. Flush area with large amounts of water. Use soap. Seek medical attention.

Ingestion: Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately.

Inhalation: Remove to fresh air and keep patient at rest. Seek medical attention immediately.

Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms and Effects of Exposure: For information on potential signs and symptoms of exposure, See Section 2 - Hazards Identification and/or Section 11 - Toxicological Information.

Medical Conditions Aggravated by Exposure: None known

Indication of the Immediate Medical Attention and Special Treatment Needed

Notes to Physician: None

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Carbon dioxide, dry chemical, or foam

Special Hazards Arising from the Substance or Mixture

Hazardous Combustion Products: Formation of toxic gases is possible during heating or fire.

Fire / Explosion Hazards: Highly flammable. Vapors will form flammable or explosive mixtures with air at room temperature. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back.

Advice for Fire-Fighters

Wear approved positive pressure, self-contained breathing apparatus and full protective turn out gear. Dike and collect water used to fight fire. Use spark-proof tools and explosion-proof equipment

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

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

Environmental Precautions

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

Methods and Material for Containment and Cleaning Up

Measures for Cleaning / Collecting: Contain the source of the spill if it is safe to do so. Eliminate possible ignition sources (e.g., heat, sparks, flame, impact, friction, electricity), and follow appropriate grounding procedures. Use non-combustible absorbent material to wipe up spill and place in a sealed container for disposal. Clean contaminated surface thoroughly. Prevent discharge to drains.

Additional Consideration for Large Spills: Non-essential personnel should be evacuated from affected area. Report emergency situations immediately. Clean up operations should only be undertaken by trained personnel. Contain the source of the spill or leak and shut off all electrical equipment if it is safe to do so. Eliminate possible ignition sources (e.g., heat, sparks, flame, impact, friction, electricity), and follow appropriate grounding procedures. Use water spray to disperse vapors and dilute spill to a nonflammable mixture. Collect spill with a non-combustible absorbent material and transfer to labeled container for disposal. Clean spill area thoroughly. Prevent runoff from entering waterways or sewers. Prevent discharge to drains.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Eliminate possible ignition sources (e.g., heat, sparks, flame, impact, friction, electricity), and follow appropriate grounding and bonding procedures. Take precautionary measures against static discharges. Use only in a well-ventilated area. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. When handling, use appropriate personal protective equipment (see Section 8). Wash hands and any exposed skin after removal of PPE. Releases to the environment should be avoided. Review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure or environmental releases. Potential points of process emissions of this material to the atmosphere should be controlled with dust collectors, HEPA filtration systems or other equivalent controls.

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions: Store at room temperature in properly labeled containers. Keep away from heat, sparks, flame, and other sources of ignition. Store away from direct sunlight. Keep container tightly closed when not in use. Keep out of reach of children. Store as directed by product packaging.

Storage Temperature: Store at or below 30°C (86°F).

Specific end use(s): Veterinary product used as Antiparasitic (veterinary); endectocide

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

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

Isopropyl alcohol

ACGIH Threshold Limit Value (TWA)	200 ppm
ACGIH Threshold Limit Value (STEL)	400 ppm
ACGIH - Biological Exposure Limit:	40 mg/L
Australia STEL	500 ppm 1230 mg/m^3

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Australia TWA	400 ppm 983 mg/m^3
Austria OEL - MAKs	200 ppm 500 mg/m^3
Belgium OEL - TWA	200 ppm 500 mg/m^3
Bulgaria OEL - TWA	980.0 mg/m^3
Czech Republic OEL - TWA	500 mg/m^3
Denmark OEL - TWA	200 ppm 490 mg/m^3
Estonia OEL - TWA	150 ppm 350 mg/m^3
Finland OEL - TWA	200 ppm 500 mg/m^3
Germany - TRGS 900 - TWAs	200 ppm 500 mg/m^3
Germany (DFG) - MAK	200 ppm 500 mg/m^3
Germany - Biological Exposure Limit:	25 mg/L
Greece OEL - TWA	400 ppm 980 mg/m^3
Hungary OEL - TWA	500 mg/m^3
Ireland OEL - TWAs	200 ppm
Japan - OELs - Ceilings	400 ppm 980 mg/m^3
Latvia OEL - TWA	350 mg/m^3
Lithuania OEL - TWA	150 ppm 350 mg/m^3
OSHA - Final PELS - TWAs:	400 ppm 980 mg/m^3
Poland OEL - TWA	900 mg/m^3
Portugal OEL - TWA	200 ppm
Romania OEL - TWA	81 ppm 200 mg/m^3
Romania - Biological Exposure Limit:	50 mg/L
Slovakia OEL - TWA	200 ppm 500 mg/m^3
Slovenia OEL - TWA	200 ppm 500 mg/m^3
Spain OEL - TWA	200 ppm 500 mg/m^3
Spain - Biological Exposure Limit:	40 mg/L
Sweden OEL - TWAs	150 ppm 350 mg/m^3
Switzerland OEL -TWAs	200 ppm 500 mg/m^3

Selamectin

Zoetis OEL TWA 8-hr	200 µg/m^3

Dipropylene glycol methyl ether

ACGIH Threshold Limit Value (TWA)	100 ppm
ACGIH Threshold Limit Value (STEL)	150 ppm

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ACGIH - Skin Absorption Designation	Skin - potential significant contribution to overall exposure by the cutaneous route
Australia TWA	50 ppm 308 mg/m^3
Austria OEL - MAKs	50 ppm 307 mg/m^3
Belgium OEL - TWA	50 ppm 308 mg/m^3
Bulgaria OEL - TWA	308.0 mg/m^3 50 ppm
Cyprus OEL - TWA	50 ppm 308 mg/m^3
Czech Republic OEL - TWA	270 mg/m^3
Denmark OEL - TWA	50 ppm 309 mg/m^3
Estonia OEL - TWA	50 ppm 308 mg/m^3
Finland OEL - TWA	50 ppm 310 mg/m^3
France OEL - TWA	50 ppm 308 mg/m^3
Germany - TRGS 900 - TWAs	50 ppm 310 mg/m^3
Germany (DFG) - MAK	50 ppm 310 mg/m^3 mixture of isomers
Greece OEL - TWA	100 ppm 600 mg/m^3
Hungary OEL - TWA	308 mg/m^3
Ireland OEL - TWAs	50 ppm 308 mg/m^3
Italy OEL - TWA	50 ppm 308 mg/m^3
Latvia OEL - TWA	50 ppm 308 mg/m^3
Lithuania OEL - TWA	50 ppm 300 mg/m^3
Malta OEL - TWA	50 ppm 308 mg/m^3
Netherlands OEL - TWA	300 mg/m^3
OSHA - Final PELS - TWAs:	100 ppm 600 mg/m^3
OSHA - Final PELs - Skin Notations:	prevent or reduce skin absorption
Poland OEL - TWA	240 mg/m^3
Portugal OEL - TWA	100 ppm
Romania OEL - TWA	50 ppm 308 mg/m^3 18 ppm 300 mg/m^3
Slovakia OEL - TWA	50 ppm 308 mg/m^3
Slovenia OEL - TWA	50 ppm 308 mg/m^3

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Spain OEL - TWA	50 ppm 308 mg/m^3
Sweden OEL - TWAs	50 ppm 300 mg/m^3
Switzerland OEL -TWAs	50 ppm 300 mg/m^3

Butylated hydroxytoluene

ACGIH Threshold Limit Value (TWA)	2 mg/m^3
Australia TWA	10 mg/m^3
Austria OEL - MAKs	10 mg/m^3
Belgium OEL - TWA	2 mg/m^3
Bulgaria OEL - TWA	10.0 mg/m^3
Denmark OEL - TWA	10 mg/m^3
Finland OEL - TWA	10 mg/m^3
France OEL - TWA	10 mg/m^3
Germany - TRGS 900 - TWAs	10 mg/m^3
Germany (DFG) - MAK	10 mg/m^3
Greece OEL - TWA	10 mg/m^3
Ireland OEL - TWAs	10 mg/m^3
Portugal OEL - TWA	2 mg/m^3
Slovenia OEL - TWA	10 mg/m^3
Spain OEL - TWA	10 mg/m^3
Switzerland OEL -TWAs	10 mg/m^3

Exposure Controls

Engineering Controls:	Engineering controls should be used as the primary means to control exposures. Keep airborne contamination levels below the exposure limits listed above in this section.
Personal Protective Equipment:	Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE).
Hands:	Impervious gloves are recommended if skin contact with drug product is possible and for bulk processing operations.
Eyes:	Wear safety glasses or goggles if eye contact is possible.
Skin:	Impervious protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations.
Respiratory protection:	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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solution	**Color:**	Yellow to colorless
Odor:	Characteristic alcohol odor	**Odor Threshold:**	No data available.
Molecular Formula:	Mixture	**Molecular Weight:**	Mixture

Solvent Solubility:	No data available
Water Solubility:	No data available
Solubility:	Miscible: Water
pH:	No data available.
Melting/Freezing Point (°C):	No data available
Boiling Point (°C):	84
Partition Coefficient: (Method, pH, Endpoint, Value)	

9. PHYSICAL AND CHEMICAL PROPERTIES

Selamectin
Measured Log P 3.1
Decomposition Temperature (°C): No data available.

Evaporation Rate (Gram/s): No data available
Vapor Pressure (kPa): No data available
Vapor Density (g/ml): No data available
Relative Density: 0.815 - 0.847
Viscosity: No data available

Flammablity:
Autoignition Temperature (Solid) (°C): No data available
Flammability (Solids): No data available
Flash Point (Liquid) (°C): 19
Upper Explosive Limits (Liquid) (% by Vol.): No data available
Lower Explosive Limits (Liquid) (% by Vol.): No data available
Polymerization: Will not occur

10. STABILITY AND REACTIVITY

Reactivity: No data available
Chemical Stability: Stable under normal conditions of use.
Possibility of Hazardous Reactions
Oxidizing Properties: No data available
Conditions to Avoid: Keep away from heat, spark, flames and all other sources of ignition. Prevent vapor accumulation. Vapours may form explosive mixture with air. Fine particles (such as dusts, mists and vapors) may fuel fires/explosions.
Incompatible Materials: As a precautionary measure, keep away from strong oxidizers
Hazardous Decomposition Products: Thermal decomposition products may include carbon monoxide, carbon dioxide and other toxic vapors.

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects
General Information: Toxicological properties of the formulation have not been investigated. The information in this section describes the potential hazards of the individual ingredients and the formulation.
Routes of exposure: inhalation , skin contact , eye contact

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

Butylated hydroxytoluene
Rat Oral LD50 1700 mg/kg
Mouse Oral LD50 650 mg/kg
Rat Oral LD50 890 mg/kg
Mouse Intraperitoneal LD 50 138 mg/kg

Isopropyl alcohol
Rat Oral LD50 > 2000 mg/kg
Mouse Oral LD50 3600 mg/kg
Rat Inhalation LC50-8h 16,000 ppm
Rabbit Dermal LD50 12800 mg/kg

11. TOXICOLOGICAL INFORMATION

Rat Inhalation LC50 30mg/L

Dipropylene glycol methyl ether
Dog Oral LD50 7500 mg/kg
Rat Oral LD 50 5400 µL/kg
Rabbit Dermal LD 50 10 mL/kg

Selamectin
Rat Oral LD50 > 1600 mg/kg
Mouse Oral LD50 > 1600mg/kg

Acute Toxicity Comments: A greater than symbol (>) indicates that the toxicity endpoint being tested was not achievable at the highest dose used in the test.

Inhalation Acute Toxicity May be harmful if inhaled. May cause respiratory tract and mucous membrane irritation. Based on components, inhalation may cause irritation, headache, drowsiness, and symptoms of drunkenness.

Irritation / Sensitization: (Study Type, Species, Severity)

Butylated hydroxytoluene
Eye Irritation Rabbit Moderate
Skin Irritation Rabbit Moderate

Isopropyl alcohol
Eye Irritation Rabbit Severe
Skin Irritation Rabbit Mild

Dipropylene glycol methyl ether
Skin Irritation Rabbit Mild
Eye Irritation Rabbit Mild

Selamectin
Eye Irritation Rabbit Mild
Skin Irritation Rabbit Minimal
Skin Sensitization - GPMT Guinea Pig Negative

Irritation / Sensitization Comments: May cause eye irritation.
Skin Irritation / Sensitization May cause mild skin irritation. based on components.

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

Butylated hydroxytoluene
4 Week(s) Rat Oral 5185 mg/kg LOAEL Liver
4 Day(s) Mouse Oral 2000 mg/kg LOAEL Liver, Kidney, Ureter, Bladder

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

Selamectin

11. TOXICOLOGICAL INFORMATION

3 Month(s) Rat Oral 5 mg/kg/day NOAEL Liver
3 Month(s) Dog Oral 40 mg/kg/day NOAEL None identified

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

Butylated hydroxytoluene
Embryo / Fetal Development Rat Oral 6 g/kg LOEL Teratogenic,

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

Selamectin
Reproductive & Fertility Rat 10 mg/kg/day NOAEL Fetotoxicity
Prenatal & Postnatal Development Rat 10 mg/kg/day NOAEL Developmental toxicity
Prenatal & Postnatal Development Rat Oral 40 mg/kg/day NOAEL Maternal Toxicity,

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

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

Selamectin
Bacterial Mutagenicity (Ames) *Salmonella* Negative
In Vitro Cytogenetics Human Lymphocytes Negative
In Vivo Micronucleus Mouse Negative
Mammalian Cell Mutagenicity Chinese Hamster Ovary (CHO) cells HGPRT Negative

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

Butylated hydroxytoluene
IARC: Group 3 (Not Classifiable)

Isopropyl alcohol
IARC: Group 3 (Not Classifiable)

12. ECOLOGICAL INFORMATION

Environmental Overview: Environmental properties of the formulation have not been investigated. This mixture contains material that is toxic to aquatic life. Bioaccumulation and/or long term effects are not expected. Releases to the environment should be avoided.

Toxicity:

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

Selamectin
Daphnia magna (Water Flea) OECD EC50 48 Hours 26 ng/L
Mysidopsis bahia (Mysid Shrimp) LC50 96 Hours 28 ng/L
Cyprinodon variegatus (Sheepshead Minnow) LC50 48 Hours > 28 ug/L
Selenastrum capricornutum (Green Alga) OECD EC50 72 Hours >763 ug/L
Oncorhynchus mykiss (Rainbow Trout) OECD LC50 96 Hours 266 ug/L

Aquatic Toxicity Comments: A greater than (>) symbol indicates that acute ecotoxicity was not observed at the maximum solubility. Since the substance is insoluble in aqueous solutions above this concentration, an acute ecotoxicity value (i.e. LC/EC50) is not achievable.

Persistence and Degradability: No data available

Bio-accumulative Potential: No data available

Selamectin
Measured Log P 3.1

Mobility in Soil: No data available

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods: Should not be released into the environment. Dispose of waste in accordance with all applicable laws and regulations. Member State specific and Community specific provisions must be considered. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater.

14. TRANSPORT INFORMATION

The following refers to all modes of transportation unless specified below.

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

UN number: UN 1219
UN proper shipping name: Isopropanol Solution
Transport hazard class(es): 3
Packing group: II
Environmental Hazard(s): Marine Pollutant (Selamectin)
Flash Point (°C): 19

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 or ADR (effective year 2015 or greater) regulations. Please refer to the applicable dangerous goods regulations for additional information. Transport according to the requirements of the appropriate regulatory body.

Flash Point (°C): 19

15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

Canada - WHMIS: Classifications
WHMIS hazard class:
Class B, Division 2
Class D, Division 2, Subdivision A
Class D, Division 2, Subdivision B
This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

Isopropyl alcohol

CERCLA/SARA 313 Emission reporting	1.0 %
California Proposition 65	Not Listed
Inventory - United States TSCA - Sect. 8(b)	Present
Australia (AICS):	Present
EU EINECS/ELINCS List	200-661-7

Selamectin

CERCLA/SARA 313 Emission reporting	Not Listed
California Proposition 65	Not Listed
EU EINECS/ELINCS List	Not Listed

Dipropylene glycol methyl ether

CERCLA/SARA 313 Emission reporting	Not Listed
California Proposition 65	Not Listed
Inventory - United States TSCA - Sect. 8(b)	Present
Australia (AICS):	Present
EU EINECS/ELINCS List	252-104-2

Butylated hydroxytoluene

CERCLA/SARA 313 Emission reporting	Not Listed

15. REGULATORY INFORMATION

California Proposition 65	Not Listed
Inventory - United States TSCA - Sect. 8(b)	Present
Australia (AICS):	Present
EU EINECS/ELINCS List	204-881-4

16. OTHER INFORMATION

Text of CLP/GHS Classification abbreviations mentioned in Section 3

Flammable liquids-Cat.2; H225 - Highly flammable liquid and vapor
Serious eye damage/eye irritation-Cat.2A; H319 - Causes serious eye irritation
Specific target organ toxicity, single exposure; Narcotic effects-Cat.3; H336 - May cause drowsiness and dizziness
Reproductive toxicity-Cat.2; H361 - Suspected of damaging fertility or the unborn child
Hazardous to the aquatic environment, acute toxicity-Cat.1; H400 - Very toxic to aquatic life
Hazardous to the aquatic environment, chronic toxicity-Cat.1; H410 - Very toxic to aquatic life with long lasting effects

Data Sources: The data contained in this SDS may have been gathered from confidential internal sources, raw material suppliers, or from the published literature.

Reasons for Revision: Updated Section 3 - Composition / Information on Ingredients. Updated Section 14 - Transport Information. Updated Section 16 - Other Information.

Prepared by: Toxicology and Hazard Communication
Zoetis Global Risk Management

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End of Safety Data Sheet