SAFETY DATA SHEET

1. Identification

Product identifier	**Stronghold Plus; Revolution Plus**
Other means of identification	
Synonyms	Selamectin / Sarolaner * TopCat
Recommended use	Veterinary product used as antiparasitic; endectocide
Recommended restrictions	Not for human use

Manufacturer/Importer/Supplier/Distributor information

Company Name (US)	Zoetis Inc. 10 Sylvan Way Parsippany, New Jersey 07054 (USA)
Rocky Mountain Poison and Drug Center	1-866-531-8896
Product Support/Technical Services	1-800-366-5288
Emergency telephone numbers	CHEMTREC (24 hours): 1-800-424-9300 International CHEMTREC (24 hours): +1-703-527-3887
Company Name (EU)	Zoetis Belgium S.A. Mercuriusstraat 20 1930 Zaventem Belgium
Emergency telephone number	International CHEMTREC (24 hours): +1-703-527-3887
Contact E-Mail	VMIPSrecords@zoetis.com

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Serious eye damage/eye irritation	Category 2A
	Reproductive toxicity	Category 2
	Specific target organ toxicity, 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
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	Highly flammable liquid and vapor. 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 away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid breathing mist or vapor. 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 on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. In case of fire: Use appropriate media to extinguish. Collect spillage.
Storage	Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Isopropyl alcohol		67-63-0	60-80
Dipropylene glycol methyl ether		34590-94-8	5-30
Selamectin		220119-17-5	6
Sarolaner	Isoxazoline	1398609-39-6	1
Butylated hydroxytoluene		128-37-0	##

Composition comments

Trace
In accordance with 29 CFR 1910.1200, the exact percentage composition of this mixture has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a POISON CENTER or doctor/physician if you feel unwell. For breathing difficulties, oxygen may be necessary.
Skin contact	Take off immediately all contaminated clothing. Wash off with soap and plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth. Call a physician or poison control center immediately. Do not induce vomiting without advice from poison control center. Never give anything by mouth to a victim who is unconscious or is having convulsions.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause drowsiness and dizziness. Headache. Nausea, vomiting. May cause respiratory irritation. Mild skin irritation. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. For personal protection, see section 8 of the SDS. Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

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. Vapors may ignite. Vapors 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 vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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 or vapor. 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.

Methods and materials for containment and cleaning up

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

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

Small Spills: Absorb spillage with non-combustible, absorbent material. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

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. 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 vapor. Avoid contact with eyes, skin, and clothing. Use only outdoors or in a well-ventilated area. Wear personal protective equipment. Observe good industrial hygiene practices. Wash thoroughly after handling. When using, do not eat, drink or smoke. Avoid release to the environment.

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

Conditions for safe storage, including any incompatibilities

Store locked up. Keep containers tightly closed in a cool, well-ventilated place. < 30C/86F. Protect from sunlight. Do not handle or store near an open flame, heat or other sources of ignition. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children. Store away from incompatible materials (see Section 10 of the SDS).

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

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Zoetis

Components	Type	Value
Sarolaner (CAS 1398609-39-6)	TWA	110 µg/m³
Selamectin (CAS 220119-17-5)	TWA	200 µg/m³

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Dipropylene glycol methyl ether (CAS 34590-94-8)	PEL	600 mg/m3
		100 ppm
Isopropyl alcohol (CAS 67-63-0)	PEL	980 mg/m3
		400 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Butylated hydroxytoluene (CAS 128-37-0)	TWA	2 mg/m3	Inhalable fraction and vapor.
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	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Butylated hydroxytoluene (CAS 128-37-0)	TWA	10 mg/m3
Dipropylene glycol methyl ether (CAS 34590-94-8)	STEL	900 mg/m3
		150 ppm
	TWA	600 mg/m3
		100 ppm
Isopropyl alcohol (CAS 67-63-0)	STEL	1225 mg/m3
		500 ppm
	TWA	980 mg/m3
		400 ppm

Biological limit values

ACGIH Biological Exposure Indices

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

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

Exposure guidelines

US - California OELs: Skin designation

Dipropylene glycol methyl ether (CAS 34590-94-8) Can be absorbed through the skin.

US - Tennessee 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.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

Dipropylene glycol methyl ether (CAS 34590-94-8) Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Dipropylene glycol methyl ether (CAS 34590-94-8) Can be absorbed through the skin.

Control banding approach Not available.

Appropriate engineering controls	General ventilation normally adequate. Industrial use: Provide adequate general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Not normally needed. If contact is likely, safety glasses with side shields are recommended. Industrial use: Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear protective gloves. Industrial use: Wear appropriate chemical resistant gloves.
Other	Not normally needed. Industrial use: Wear suitable protective clothing. Impervious protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations.
Respiratory protection	No personal respiratory protective equipment normally required. Industrial use: In case of insufficient ventilation, wear suitable respiratory equipment. If the applicable Occupational Exposure Limit (OEL) is exceeded, wear an appropriate respirator with a protection factor sufficient to control exposures to below the OEL. Chemical respirator with organic vapor 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

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	Clear, colorless to pale yellow
Odor	Alcohol.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	381.2 °F (194 °C) estimated
Initial boiling point and boiling range	183.2 °F (84 °C) estimated
Flash point	66.2 °F (19.0 °C) estimated
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble

Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

Other information

Explosive properties	Not explosive.
Flammability class	Flammable IB estimated
Oxidizing properties	Not oxidizing.
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 polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Sunlight. Keep away from heat, spark, open flames and other sources of ignition.
Incompatible materials	Strong oxidizing agents. Combustible material. organic materials. Acids. Isocyanates. Chlorine.
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 and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.

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

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
Sarolaner	Species: Rabbit Severity: Non-irritating

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

Information on toxicological effects

Acute toxicity May be harmful if swallowed.

Components	Species	Test Results
Butylated hydroxytoluene (CAS 128-37-0)		
Acute		
Intraperitoneal		
LD50	Mouse	138 mg/kg
Oral		
LD50	Mouse	650 mg/kg
	Rat	1700 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		
Vapor		
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
		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)
Sarolaner (CAS 1398609-39-6)		
Acute		
Dermal		
LD50	Rat	> 2020 mg/kg
Oral		
LD50	Rat	783 mg/kg

Components	Species	Test Results
Subacute		
Oral		
NOAEL	Rat	2.5 mg/kg/day, 14 days (Adrenal gland)
		2.2 mg/kg/day, 30 days (Adrenal gland, Ovary, Liver)
Subchronic		
Oral		
NOAEL	Rat	25 mg/kg/day, 90 days (Adrenal gland, Ovary, Pancreas)
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 Prolonged skin contact may cause temporary 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

Irritation Corrosion - Skin

Sarolaner	Result: Non-irritant Species: Rabbit

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
Sarolaner	Species: Rabbit Severity: Minimal
Butylated hydroxytoluene	Species: Rabbit Severity: Moderate

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

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

Skin sensitization

Selamectin	GPMT Species: Guinea Pig Severity: Negative
Sarolaner	LLNA Species: Mouse 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

Sarolaner	Bacterial Mutagenicity (Ames) Result: Negative Species: Salmonella , E. coli
Isopropyl alcohol	Bacterial Mutagenicity (Ames) Result: Negative Species: Salmonella
Selamectin	Bacterial Mutagenicity (Ames) Result: Negative Species: Salmonella
Sarolaner	In Vitro Chromosome Aberration Result: Negative Species: Human Lymphocytes
Selamectin	In Vitro Cytogenetics Result: Negative Species: Human Lymphocytes
Sarolaner	In Vitro Micronucleus Result: Negative Species: Chinese Hamster Ovary (CHO) cells
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
Sarolaner	In Vivo Micronucleus Result: Negative Species: Rat
Selamectin	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.

IARC Monographs. Overall Evaluation of Carcinogenicity

Butylated hydroxytoluene (CAS 128-37-0)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

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
Sarolaner	3 mg/kg/day Embryo / Fetal Development, Maternal Toxicity Not Teratogenic Result: NOAEL Species: Rabbit Organ: Oral
	3.2 mg/kg/day Embryo / Fetal Development, Maternal toxicity Not teratogenic 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 and dizziness.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

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

Components		Species	Test Results
Isopropyl alcohol (CAS 67-63-0)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 1400 mg/l, 96 hours
Sarolaner (CAS 1398609-39-6)			
Aquatic			
Algae	EC50	Pseudokirchneriella subcapitata (Green Alga)	> 0.27 mg/L, 72 Hours (ErC50)
Crustacea	EC50	Daphnia magna (Water Flea)	0.27 mg/L, 48 Hours
Fish	LC50	Fish	> 0.54 mg/L, 96 Hours
Selamectin (CAS 220119-17-5)			
	EC50	Selenastrum capricornutum (Green Alga)	> 763 ug/L, 72 Hours
	LC50	Cyprinodon variegatus (Sheepshead Minnow)	> 28 ug/L, 48 Hours
		Mysidopsis bahia (Mysid Shrimp)	28 ng/L, 96 Hours
Aquatic			
Crustacea	EC50	Daphnia magna (Water Flea)	26 ng/L, 48 Hours
Fish	LC50	Oncorhynchus mykiss (Rainbow Trout)	266 ug/L, 96 Hours

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

Biodegradability

Percent degradation (Aerobic biodegradation)

Dipropylene glycol methyl ether	Result: Readily biodegradable

Bioaccumulative potential No data available for this product. Not expected to bioaccumulate.

Partition coefficient n-octanol / water (log Kow)

Sarolaner	3.25
Selamectin	3.1, [Measured, Log P]

Mobility in soil No data available for this product.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

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

Industrial use: Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code Industrial use: Waste of this product may qualify as a RCRA Hazardous Waste. Status should be confirmed by testing for RCRA hazardous characteristics (i.e. corrosivity, toxicity, reactivity, or ignitability). The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Industrial use: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1219
UN proper shipping name	Isopropanol Solution, MARINE POLLUTANT (Selamectin, Isoxazoline)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Other information: See "excepted quantity" provisions if applicable.

IATA

UN number	UN1219
UN proper shipping name	Isopropanol Solution
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	Yes (Selamectin, Isoxazoline) > 5L or 5 Kg
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Other information: See "excepted quantity" provisions if applicable.

IMDG

UN number	UN1219
UN proper shipping name	Isopropanol Solution, MARINE POLLUTANT (Selamectin, Isoxazoline)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	Yes
EmS	F-E, S-D
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Other information: See "excepted quantity" provisions if applicable.

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

DOT

IATA; IMDG

Marine pollutant

General information For small quantities packed in combination packaging, exceptions may apply. 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.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

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

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
Flammable (gases, aerosols, liquids, or solids)
Serious eye damage or eye irritation
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Isopropyl alcohol	67-63-0	60-80

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Isopropyl alcohol (CAS 67-63-0) Low priority

US state regulations California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

California Proposition 65

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Isopropyl alcohol (CAS 67-63-0)

International Inventories

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

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 11-26-2018

Version # 01

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.