



Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Avilamycin	[(2R,3S,4R,6S)-6-[(2'R,3'S,3aR,4R,4'R,6S,7aR)-6-[(2S,3R,4R,5S,6R)-2-[(2R,3S,4S,5S,6S)-6-[(2R,3aS,3'aR,6'R,7R,7'S,7aR,7'aR)-7'-acetyl-7'-hydroxy-6'-methyl-7-(2-methylpropanoyloxy)spiro[4,6,7,7a-tetrahydro-3aH-[1,3]dioxolo[4,5-d]pyran-2,4'-6,7a-dihydro-3aH-[1,3]dioxolo[4,5-c]pyran]-6-yl]oxy-4-hydroxy-5-methoxy-2-(methoxymethyl)oxan-3-yl]oxy-3-hydroxy-5-methoxy-6-methyloxan-4-yl]oxy-4'-hydroxy-2',4,7a-trimethylspiro[3a,4,6,7-tetrahydro-[1,3]dioxolo[5,4-c]pyran-2,6'-oxane]-3'-yl]oxy-4-hydroxy-2-methyloxan-3-yl]3,5-dichloro-4-hydroxy-2-methoxy-6-methylbenzoate	11051-71-1	10
Excipient: Grain Dust		NA	87 - 90
Anti-dusting oil	MINERAL OIL	8012-95-1	<= 3

**Composition comments** Excipients may include: Rice hulls. Soybean mill run.  
The anti-dusting oil reduces potential exposure under normal handling conditions of use.

### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Get medical attention immediately.
<b>Skin contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists. Take off contaminated clothing and wash before reuse.
<b>Eye contact</b>	Do not rub eyes. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Give several glasses of water. Never give liquid to an unconscious person. Call a physician or poison control center immediately.
<b>Most important symptoms/effects, acute and delayed</b>	Irritating to eyes. Wheezing.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically.
<b>General information</b>	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemicals. Carbon dioxide (CO2). Apply extinguishing media carefully to avoid creating airborne dust.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	Dust may form explosive mixture with air.
<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained breathing apparatus and protective clothing. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Avoid inhalation of dust. Wear suitable protective clothing, gloves and eye/face protection. See Section 8 of the SDS for Personal Protective Equipment.

### Methods and materials for containment and cleaning up

Vacuum material with appropriate dust collection filter in place. Be aware of potential for dust explosion when using electrical equipment. If vacuum is not available, lightly mist/wet material and remove by mopping or wet wiping. Large spills due to traffic accidents, etc., should be reported immediately to CHEMTREC and Elanco Animal Health for assistance.

### Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Prevent spilled material from flowing onto adjacent land or into streams, ponds, or lakes.

## 7. Handling and storage

### Precautions for safe handling

Minimize dust generation and accumulation. Wash hands thoroughly after handling. Avoid contact with eyes, skin, and clothing. Wear appropriate personal protective equipment.

### Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### U.S. - OSHA

##### Components

Components	Type	Value	Form
Excipient: Grain Dust	TWA	10 mg/m3	(grain dust)

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

##### Components

Components	Type	Value	Form
Anti-dusting oil (CAS 8012-95-1)	PEL	5 mg/m3	Mist.

#### ACGIH

##### Components

Components	Type	Value	Form
Excipient: Grain Dust	TWA	4 mg/m3	(grain dust)

#### US. ACGIH Threshold Limit Values

##### Components

Components	Type	Value	Form
Anti-dusting oil (CAS 8012-95-1)	TWA	5 mg/m3	Inhalable fraction.

#### US. NIOSH: Pocket Guide to Chemical Hazards

##### Components

Components	Type	Value	Form
Anti-dusting oil (CAS 8012-95-1)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.

#### Lilly (LEG)

##### Material

Material	Type	Value
Integrity	TWA (8hrs)	4 mg/m3

#### Elanco OEL

##### Components

Components	Type	Value
Avilamycin (CAS 11051-71-1)	TWA (8hrs)	10 mg/m3

### Biological limit values

No biological exposure limits noted for the ingredient(s).

### Appropriate engineering controls

Laboratory fume hood or local exhaust ventilation.

In a manufacturing setting, wear chemical-resistant gloves and body covering to minimize skin contact. If handled in a ventilated enclosure, as in a laboratory setting, respirator and goggles or face shield may not be required. Safety glasses are always required.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Wear safety glasses with side shields (or goggles).

<b>Skin protection</b>	
<b>Hand protection</b>	Chemical resistant gloves.
<b>Other</b>	Chemical-resistant gloves and impermeable body covering to minimize skin contact.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the respirator. Select appropriate respirator for physical characteristics of material. Select respirator with appropriate protection factor.
<b>Thermal hazards</b>	Not available.
<b>General hygiene considerations</b>	Under normal use and handling conditions, wear goggles to protect eyes and wear impermeable gloves and protective equipment to avoid direct contact with skin. Wash thoroughly with soap and water after handling.

When mixing and handling, use protective clothing, impervious gloves, and dust respirator (recommended). Operators should wash thoroughly with soap and water after handling. If accidental eye contact occurs, immediately rinse with plenty of water.

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	Free flowing material which may contain light colored particles.
<b>Color</b>	Brown
<b>Odor</b>	Musty
<b>Odor threshold</b>	No data available.
<b>pH</b>	6 - 8
<b>Melting point/freezing point</b>	No data available.
<b>Initial boiling point and boiling range</b>	No data available.
<b>Flash point</b>	No data available.
<b>Evaporation rate</b>	No data available.
<b>Flammability (solid, gas)</b>	No test data available.

### Upper/lower flammability or explosive limits

<b>Flammability limit - lower (%)</b>	No data available.
<b>Flammability limit - upper (%)</b>	No data available.
<b>Explosive limit - lower (%)</b>	No data available.
<b>Explosive limit - upper (%)</b>	No data available.

**Vapor pressure** No data available.

**Vapor density** No data available.

**Relative density** No data available.

### Solubility(ies)

**Solubility (water)** Insoluble

**Partition coefficient (n-octanol/water)** No data available.

**Auto-ignition temperature** No data available.

**Decomposition temperature** No data available.

**Viscosity** No data available.

### Other information

**Density** No data available.

**Explosive properties** Not explosive.

**Flammability** No data available.

**Molecular weight** No data available.

**Oxidizing properties** The substance or mixture is not classified as oxidizing.

<b>Thermal hazards</b>	
<b>Thermal stability</b>	Not applicable.
<b>VOC</b>	No data available.

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Keep away from heat, sparks and open flame. Contact with incompatible materials. Minimize dust generation and accumulation.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	Fire or excessive heat may produce hazardous decomposition products.

## 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Components	Species	Test Results
Avilamycin (CAS 11051-71-1)		
<b>Acute</b>		
<b>Dermal</b>		
LD	Rabbit	> 2000 mg/kg (14.9% formulation)
<b>Inhalation</b>		
LC50	Rat	> 770 mg/m <sup>3</sup> , 4 hours (14.9% formulation)
<b>Oral</b>		
LD	Rat	> 5000 mg/kg (14.9% formulation)

**Skin corrosion/irritation** (14.9% Avilamycin)  
Rabbit: Slight irritation.  
Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Rabbit: Irritating to eyes. (14.9 % Avilamycin) (cleared within 7 days)

#### Respiratory or skin sensitization

**Respiratory sensitization** May cause allergy or asthma symptoms or breathing difficulties if inhaled. Allergic reactions in a manufacturing setting have been reported. Did not cause sensitization on laboratory animals. (Avilamycin)

**Skin sensitization** Allergic reactions in a manufacturing setting have been reported. Did not cause sensitization on laboratory animals. (Avilamycin)  
Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Result in genetic toxicity assays (in vitro and in vivo): Negative (Avilamycin)

**Carcinogenicity** No effects identified in animal studies. (Avilamycin)

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Anti-dusting oil (CAS 8012-95-1) 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** No effects identified in animal studies. (Avilamycin)

**Specific target organ toxicity - single exposure** No effects identified in animal studies. (Avilamycin)

**Specific target organ toxicity - repeated exposure** No target organ toxicity identified through animal studies. (Avilamycin)

**Aspiration hazard** No aspiration toxicity classification

## 12. Ecological information

### Ecotoxicity

Components	Species	Test Results	
Avilamycin (CAS 11051-71-1)			
	Audrain (Silty clay loam)	66.5 ml/g Mean Kd (adsorption)	
	Mutcher sandy loam, pesticide free (sandy clay loam)	143 ml/g Mean Kd (adsorption)	
	Raymondville (Sandy clay loam)	2.05 ml/g Mean Kd (adsorption)	
	Tehama (Loam)	56 ml/g Mean Kd (adsorption)	
	Tift (Sand)	3.57 ml/g Mean Kd (adsorption)	
<i>Acute</i>			
LC50	Anas platyrhynchos (Mallard duck)	> 730 ppm, 5 days (Dietary)	
	Colinus virginianus (Quail)	> 660 ppm, 5 days (Dietary)	
	Earthworm (Eisenia fetida)	> 100 mg/kg, 14 days	
	Oncorhynchus mykiss (Rainbow trout)	> 47.8 mg/l, 96 hours	
LD50	Colinus virginianus (Quail)	> 372.5 mg/kg, 5 days	
<i>Chronic</i>			
EC50	Corn (Zea mays)	> 500 mg/kg, 21 days	
	Earthworm (Eisenia fetida)	> 1300 mg/kg, 56 days (reproduction)	
	Oat (Avena sativa)	> 500 mg/kg, 21 days	
	Radish (Raphanus sativus)	> 500 mg/kg, 21 days	
	Soybean (Glycine max)	> 500 mg/kg, 21 days	
	Sugar beet (Beta vulgaris)	> 500 mg/kg, 21 days	
	Tomato (Solanum lycopersicon)	> 500 mg/kg, 21 days	
NOEC	Earthworm (Eisenia fetida)	1300 mg/kg, 56 days (reproduction)	
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Water flea (Daphnia magna)	> 138 mg/l, 48 hours
	NOEC	Water flea (Daphnia magna)	138 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	> 35.4 mg/l, 96 hours

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available.

#### Partition coefficient n-octanol / water (log Kow)

Avilamycin 0.681 Shake flask method, (pH 9)  
2.55 Shake flask method, (pH 7)  
3.97 Shake flask method, (pH 4.5)

#### Bioconcentration factor (BCF)

Avilamycin 15

**Mobility in soil** No data available.

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

### Ecotoxicological Properties

#### Drinking Water

Components	Test Results
Avilamycin	6.6 mg/l, (Lilly Aquatic Exposure Guideline)

#### Chronic Exposure of Aquatic Organisms

Components	Test Results
Avilamycin	2.4 mg/l, (Lilly Aquatic Exposure Guideline)

## Acute Exposure of Aquatic Organisms

### Components

### Test Results

Avilamycin

12 mg/l, (Lilly Aquatic Exposure Guideline)

## 13. Disposal considerations

**Disposal instructions** Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations.

## 14. Transport information

### DOT

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

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

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.  
One or more components are not listed on TSCA.

CERCLA/SARA Hazardous Substances - Not applicable.

### Toxic Substances Control Act (TSCA)

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

Not regulated.

### CERCLA Hazardous Substance List (40 CFR 302.4)

Not 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 313 (TRI reporting)

Not regulated.

### 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.

### 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

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.

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

Anti-dusting oil (CAS 8012-95-1)

### International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No

Country(s) or region	Inventory name	On inventory (yes/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** 02-03-2016

**Revision date** 03-27-2019

**Version #** 02

**Further information** Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

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