



# SAFETY DATA SHEET

## 1. Identification

**Product Identifier** Rumensin 90 Premix

**Other means of identification**

**Item Code** AF1825, AF0647

**Synonyms** Monensin, monosodium salt

**Recommended use** Veterinary Pharmaceutical

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Company Name** Elanco Animal Health  
2500 Innovation Way  
Greenfield, IN 46140  
US

**Phone:** 1-877-Elanco1 (1-877-352-6261)

**Email:** lilly\_msds@lilly.com

**Emergency Telephone Numbers:** Elanco Product Technical Support / Human or Animal Exposure Reporting:  
1-888-545-5973

**Transportation Emergency Telephone:** CHEMTREC: 1-800-424-9300  
(Outside U.S. 1-703-527-3887)

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards**

Acute toxicity, oral	Category 4
Serious eye damage/eye irritation	Category 1
Sensitization, respiratory	Category 1
Specific target organ toxicity, repeated exposure	Category 2

**OSHA defined hazards** Combustible dust

### Label elements



**Signal word** Danger

### Hazard statement

H302	May form combustible dust concentrations in air.
H318	Harmful if swallowed.
H334	Causes serious eye damage.
H373	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
	May cause damage to organs (Heart, Muscles) through prolonged or repeated exposure.

### Precautionary statement

#### Prevention

P260	Do not breathe dust.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P284	In case of inadequate ventilation wear respiratory protection.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

#### Response

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P330	Rinse mouth.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
<b>Storage</b>	Not available.
<b>Disposal</b>	
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Rice Hulls		No Data	35
Monensin sodium		22373-78-0	20

**Composition comments** Remaining components of this product are non-hazardous and/or are present at concentrations below reportable levels.  
Contains up to 3% anti-dusting oil. The anti-dusting oil reduces potential exposure under normal handling conditions of use.

### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Oxygen or artificial respiration if needed. IF exposed or concerned: Get medical advice/attention.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water. Take off contaminated clothing and wash before reuse. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate rinsing may prevent permanent damage. Get medical attention immediately.
<b>Ingestion</b>	Give several glasses of water. Never give anything by mouth to a victim who is unconscious or is having convulsions. Call a physician or poison control center immediately.
<b>Most important symptoms/effects, acute and delayed</b>	Harmful if swallowed. Causes eye burns. May cause allergic respiratory reaction. Prolonged or repeated exposure may cause: May cause heart effects. May cause muscle effects.
<b>Indication of immediate medical attention and special treatment needed</b>	Immediate rinsing may prevent permanent damage (eyes).
<b>General information</b>	In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water. Carbon dioxide (CO2). Dry chemical.
<b>Unsuitable extinguishing media</b>	None known.
<b>Specific hazards arising from the chemical</b>	Dust may form explosive mixture with air. Fire or excessive heat may produce hazardous decomposition products.
<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained breathing apparatus and protective clothing.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Avoid contact with skin, eyes and clothing. Wear suitable protective clothing, gloves and eye/face protection. See Section 8 of the SDS for Personal Protective Equipment.
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**Methods and materials for containment and cleaning up**

**Small Spillages:**  
Do not sweep. Collect spill using a vacuum cleaner with a HEPA filter. 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 Spillages:**  
Prevent further migration into the environment. Remove sources of ignition. Collect in a non-combustible container for prompt disposal. Local authorities should be advised if significant spillages cannot be contained. Large spills due to traffic accidents, etc., should be reported immediately to CHEMTREC and Elanco Animal Health for assistance.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

**7. Handling and storage**

**Precautions for safe handling**

Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling. Keep away from heat and sources of ignition. Minimize dust generation and accumulation. Avoid release to the environment.

**Conditions for safe storage, including any incompatibilities**

Store in a cool, dry place with adequate ventilation. Keep away from incompatible materials, open flames, and high temperatures. Keep container tightly closed. Avoid contact with oxidizing agents. Do not store in open or unlabelled containers.

**8. Exposure controls/personal protection**

**Occupational exposure limits**

**U.S. - OSHA Components**

	Type	Value	Form
Rice Hulls	TWA	10 mg/m3	dust
Comments: (Grain dust)			

**ACGIH Components**

	Type	Value	Form
Rice Hulls	TWA	4 mg/m3	dust
Comments: (Grain dust)			

**Lilly (LEG) Components**

	Type	Value
Monensin sodium (CAS 22373-78-0)	TWA (12hrs)	15 ug/m3

**Biological limit values**

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

**Appropriate engineering controls**

Laboratory fume hood or local exhaust ventilation.

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

**Eye/face protection**

Wear goggles/face shield.

**Skin protection**

**Hand protection**

Chemical resistant gloves.

**Other**

Chemical-resistant gloves and impermeable body covering to minimize skin contact.

**Respiratory protection**

Use an approved respirator. Select appropriate respirator for physical characteristics of material. Select respirator with appropriate protection factor. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the respirator.

**Thermal hazards**

Not available.

**General hygiene considerations**

NOT INTENDED FOR HUMAN USE. Use good industrial hygiene practices in handling this material.

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.

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**

<b>Appearance</b>	Dry flowable granules.
<b>Physical state</b>	Solid.
<b>Form</b>	Solid.
<b>Color</b>	Brown
<b>Odor</b>	Musty.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	No test data available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Insoluble.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Dust explosion properties</b>	
<b>Minimum ignition temperature (MIT) - dust layer</b>	717.8 °F (381 °C)
<b>Explosive properties</b>	Not explosive
<b>Oxidizing properties</b>	The substance or mixture is not classified as oxidizing.

**10. Stability and reactivity**

<b>Reactivity</b>	Not water reactive.
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<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>	None known.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	Hazardous decomposition products formed under fire conditions..

## 11. Toxicological information

### Information on toxicological effects

**Acute toxicity** Harmful if swallowed.

Components	Species	Test Results
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Monensin sodium (CAS 22373-78-0)

#### Acute

##### Dermal

LD	Rabbit	> 500 mg/kg (24% monensin sodium mixture)
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##### Inhalation

LC50	Rat	> 370 mg/m <sup>3</sup> , 1 h (24% monensin sodium mixture)
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##### Oral

LD50	Rat	34 mg/kg
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**Skin corrosion/irritation** Rabbit: Slight irritation.  
Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Rabbit: Corrosive. Immediate rinsing may prevent permanent damage.

### Respiratory or skin sensitization

**Respiratory sensitization** Allergic reactions in a manufacturing setting have been reported. (Monensin Sodium)  
Grain dusts may cause sensitization by inhalation.

**Skin sensitization** Did not cause sensitization on laboratory animals. (Monensin Sodium)  
Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** In vitro and in vivo tests did not show mutagenic effects. (Monensin Sodium)  
Based on available data, the classification criteria are not met.

**Carcinogenicity** Animal testing did not show any carcinogenic effects. (Monensin Sodium)  
This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.  
Based on available data, the classification criteria are not met.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

#### 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. (Monensin Sodium) Based on available data, the classification criteria are not met.

**Specific target organ toxicity - single exposure** Based on available data, the classification criteria are not met.

**Specific target organ toxicity - repeated exposure** Heart effects (degenerative and reparative tissue changes, electrocardiogram changes, congestive heart failure), muscle effects (skeletal muscle changes, elevated blood enzymes of muscle origin). (Monensin Sodium)

**Aspiration hazard** No aspiration toxicity classification.

## 12. Ecological information

**Ecotoxicity** Harmful to aquatic life with long lasting effects.

Components	Species		Test Results
<b>Monensin sodium (CAS 22373-78-0)</b>			
<b>Aquatic</b>			
Algae	EC50	Green Algae ( <i>Pseudokirchneriella subcapitata</i> )	4.33 mg/l, 72 h (average specific growth rate)
	NOEC	Green Algae ( <i>Pseudokirchneriella subcapitata</i> )	0.055 mg/l (biomass)
Crustacea	EC50	Daphnia magna	10.7 mg/l, 48 h
Fish	LC50	Bluegill ( <i>Lepomis macrochirus</i> )	16.6 mg/l, 96 h
		Rainbow Trout	9 mg/l, 96 h
<b>Terrestrial</b>			
Other	LC50	Quail	85.7 mg/kg, 14 d

A LAEG is the maximum allowable concentration at the point of application that is expected to result in no appreciable risk to populations of aquatic and terrestrial organisms, or to human health.

#### LILLY AQUATIC EXPOSURE GUIDELINES:

##### Monensin Sodium

Drinking water LAEG (at the point where surface water is taken for drinking water):	75 µg/l
Chronic LAEG (at the edge of the chronic mixing zone):	55 µg/l
Acute LAEG (at the edge of the acute mixing zone):	562 µg/l

**Persistence and degradability**      Photolysis half-life (days): 43.9  
Photolysis rate constant (1/day): 0.0158  
Hydrolysis: none measured (pH 5, 7, 9)  
Soil degradation half-life (days): 7.5  
Greater than 50% loss in sandy, silt, and clay loam soils in less than 14 days. (Monensin Sodium)  
No data is available on the degradability of this product.

**Bioaccumulative potential**      No data available for this product.

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

Monensin sodium	2.75, (pH 7)
	3.79, (pH 9)
	4.24, (pH 5)

#### Mobility in soil

##### Adsorption

##### Soil/sediment sorption - log Koc

Monensin sodium	> 5.63
	Result: (pH 4.5 and 6)

**Other adverse effects**      Not available.

### 13. Disposal considerations

**Disposal instructions**      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 available.

### 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)**

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)**

<b>Classified hazard categories</b>	Combustible dust Acute toxicity (any route of exposure) Serious eye damage or eye irritation Respiratory or skin sensitization Specific target organ toxicity (single or repeated exposure)
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**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.

<b>Safe Drinking Water Act (SDWA)</b>	Not regulated.
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**US state regulations****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.

**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
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**

<b>Issue date</b>	12-04-2014
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<b>Revision date</b>	04-04-2018
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<b>Version #</b>	08
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<b>Lilly Lab Code</b>	Health: 3 Fire: 1 Reactivity: 0 Special 1: A
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<b>List of abbreviations</b>	LEG: Lilly Exposure Guideline. LAEG: Lilly Aquatic Exposure Guideline.
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For additional information contact:  
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<b>Revision information</b>	Physical & Chemical Properties: Multiple Properties GHS: Classification
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