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

Manufacturer

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 3
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

May form combustible dust concentrations in air.

H301 Toxic if swallowed.

H318 Causes serious eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H373 May cause damage to organs (Heart, Muscles) through prolonged or repeated exposure.

Precautionary statement

Prevention

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P285 In case of inadequate ventilation wear respiratory protection.

P280 Wear protective gloves/eye protection/face protection.

Response

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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.
Storage	Not available.
Disposal	
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Monensin sodium		22373-78-0	20
Excipient: Grain Dust		NA	73
Anti-dusting Oil	MINERAL OIL	8012-95-1	1
Other components below reportable levels			6

Composition comments The anti-dusting oil reduces potential exposure under normal handling conditions of use.

4. First-aid measures

Inhalation Move to fresh air. Oxygen or artificial respiration if needed. IF exposed or concerned: Get medical advice/attention.

Skin contact 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.

Eye contact 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.

Ingestion 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.

Most important symptoms/effects, acute and delayed Causes eye burns. May cause irritation of respiratory tract. May cause allergic respiratory reaction. May cause heart effects. May cause muscle effects.

Indication of immediate medical attention and special treatment needed Immediate rinsing may prevent permanent damage (eyes).

General information In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

5. Fire-fighting measures

Suitable extinguishing media Water. Carbon dioxide (CO2). Dry chemical.

Unsuitable extinguishing media None known.

Specific hazards arising from the chemical Dust may form explosive mixture with air.
Fire or excessive heat may produce hazardous decomposition products.

Special protective equipment and precautions for firefighters Wear self-contained breathing apparatus and protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures 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.

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

Lilly (LEG)

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

Occupational exposure limits

ACGIH

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

US. ACGIH Threshold Limit Values

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

U.S. - OSHA

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

US. NIOSH: Pocket Guide to Chemical Hazards

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

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 and impermeable body covering to minimize skin contact.

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.
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

Appearance	Dry flowable granules.
Physical state	Solid.
Form	Solid.
Color	Brown
Odor	Musty.
Odor threshold	No data available.
pH	No data available.
Melting point/freezing point	No data available.
Initial boiling point and boiling range	No data available.
Flash point	No data available.
Evaporation rate	No data available.
Flammability (solid, gas)	No test data available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	No data available.
Flammability limit - upper (%)	No data available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not 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.
Dust explosion properties	
Minimum ignition temperature (MIT) - dust layer	717.8 °F (381 °C)

Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Percent volatile	No data available.
VOC (Weight %)	No data available.

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	None known.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions..

11. Toxicological information

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Monensin sodium (CAS 22373-78-0)		
Acute		
Dermal		
LD	Rabbit	> 500 mg/kg (24% monensin sodium mixture)
Inhalation		
LC50	Rat	> 370 mg/m3, 1 h (24% monensin sodium mixture)
Oral		
LD	Rat	> 300 (55% monensin sodium mixture)
LD50	Rat	34 mg/kg

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

Anti-dusting Oil (CAS 8012-95-1) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

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

Components		Species	Test Results
Monensin sodium (CAS 22373-78-0)			
Other	LC50	Quail	85.7 mg/kg, 14 d
Acute			
Other	EC50	Selenastrum capricornutum (new name Pseudokirchnerella subca	4.33 mg/l, 72 h (average specific growth rate)
Chronic			
Other	NOEC	Selenastrum capricornutum (new name Pseudokirchnerella subca	0.055 mg/l (biomass)
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	10.7 mg/l, 48 h
Fish	LC50	Bluegill (Lepomis macrochirus)	16.6 mg/l, 96 h
		Rainbow Trout	9 mg/l, 96 h

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.

Ecotoxicological Properties

Drinking Water

Components	Test Results
Monensin sodium	75 µg/l, (Lilly Aquatic Exposure Guideline)

Chronic Exposure of Aquatic Organisms

Components	Test Results
Monensin sodium	55 µg/l, (Lilly Aquatic Exposure Guideline)

Acute Exposure of Aquatic Organisms

Components	Test Results
Monensin sodium	562 µg/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 This substance/mixture is not intended to be transported in bulk.

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 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

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.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

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

US. New Jersey Worker and Community Right-to-Know Act

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

US. Pennsylvania Worker and Community Right-to-Know Law

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

US. Rhode Island RTK

Not regulated.

US. 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

Country(s) or region	Inventory name	On inventory (yes/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

Issue date 12-04-2014

Version # 01

Lilly Lab Code

Health: 3
Fire: 1
Reactivity: 0
Special 1: A

List of abbreviations

LEG: Lilly Exposure Guideline

Disclaimer

As of the date of issuance, we are providing available information relevant to the handling of this material in the workplace. All information contained herein is offered with the good faith belief that it is accurate. THIS MATERIAL SAFETY DATA SHEET SHALL NOT BE DEEMED TO CREATE ANY WARRANTY OF ANY KIND (INCLUDING WARRANTY OF MERCHANT ABILITY OR FITNESS FOR A PARTICULAR PURPOSE). In the event of an adverse incident associated with this material, this safety data sheet is not intended to be a substitute for consultation with appropriately trained personnel. Nor is this safety data sheet intended to be a substitute for product literature which may accompany the finished product.

For additional information contact:
Elanco Animal Health
00+1+877-352-6261
00+1-800-428-4441

Revision Information

Product and Company Identification: Synonyms
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Ecological Information: Ecotox Property Data
Transport Information: Material Transportation Information
Regulatory Information: Risk Phrases - Class.
GHS: Classification