

RUMENSIN 90 PREMIX

Version 1.2

Revision Date 05/25/2010

Print Date 06/28/2010

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : RUMENSIN 90 PREMIX
Substance Number : 000000004219
Common Name : Rumensin 90 Premix

Chemical Name : Monensin, monosodium salt

Company : Elanco Animal Health
Division of Eli Lilly and Company
2001 West Main St
Greenfield, IN 46140
Telephone : 1-800-428-4441
Emergency telephone : CHEMTREC: 1-800-424-9300 (Outside U.S. 1-703-527-3887)

Item Code : AF0647

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview****Lilly Lab Labeling Code**

Health: 3

Fire: 1

Reactivity: 0

**Primary Hazards:** Toxic, Corrosive (eyes), Irritant (skin, respiratory tract), Suspect Allergen, Heart, Muscle**Hazard Summary (Caution):** Harmful if swallowed. Causes eye burns. May cause skin/respiratory tract irritation. May produce an allergic reaction. May cause heart effects. Change in heart rate or rhythm. May cause muscle effects.**Emergency Overview**

Form : dry, free flowing granules
Colour : brown
Odour : musty

Potential Health Effects

Eyes : Causes eye burns. Immediate rinsing may prevent permanent damage.

Skin : May cause allergic skin reaction. Skin irritation has been reported with occupational

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exposure. Contact dermatitis (rash) has been reported with occupational exposure.

Ingestion : Harmful if swallowed.

Inhalation : Irritation of the respiratory tract has been reported with occupational exposure.

Aggravated Medical Condition : Hypersensitivity to monensin sodium. Persons with a history of allergies, contact dermatitis, or chronic rashes should use special precautions to avoid skin contact or exposure to dust. When laboratory animals receive a bolus injection of monensin sodium, there are cardiovascular changes such as increased heart rate and elevated blood pressure. In experience with human exposure, however, there is no corroborative information available that would establish the aggravation of a medical condition by exposure to monensin sodium.

Primary Routes of Entry : Inhalation Skin contact

Additional Information : Prolonged exposure to high concentrations of grain dust may cause irritation of the eyes, respiratory tract, and mucous membranes.

Carcinogenicity

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Concentration [%]
Monensin Sodium	22373-78-0	20
Diluent	NA	
Mineral Oil	8012-95-1	1

Diluent may include rice hulls, limestone, and fermentation nutrients.

NA = Not applicable, Not assigned, or Not available.

SECTION 4. FIRST AID MEASURES

Inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. Call a physician or poison control centre immediately.

Skin contact : Wash off immediately with plenty of water for at least 15 minutes. Take off all contaminated clothing immediately. Get medical attention if irritation develops and persists. Wash contaminated clothing before re-use.

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- 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. Obtain medical attention.
- Ingestion : If conscious, give the victim plenty of water to drink. Never give anything by mouth to an unconscious person. Call a physician immediately.

SECTION 5. FIRE-FIGHTING MEASURES

- Flash point : no data available Upper explosion limit : no data available
- Lower explosion limit : no data available
- Suitable extinguishing media : Water Carbon dioxide (CO₂) Dry chemical
- Unusual Fire and Explosion Hazard. : Dust may form explosive mixture in air. Hazardous decomposition products formed under fire conditions. Minimum Ignition Temperature of Dust Layer: 381 C

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Methods for 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 material and remove by sweeping or wet wiping. Wear protective equipment, including eye protection, to avoid exposure (see Section 8 for specific handling precautions). Large spills due to traffic accidents, etc., should be reported immediately to CHEMTREC and Elanco Animal Health for assistance. Prevent spilled material from flowing onto adjacent land or into streams, ponds, or lakes.

SECTION 7. HANDLING AND STORAGE**Handling**

- Advice on safe handling : NOT FOR HUMAN USE!

Storage

- Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Protect from moisture and heat. Product should not be used after the date printed on the container.

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Exposure guidelines**

Components	Exposure Limit Values
Monensin Sodium	LEG: 12 hour TWA 15 µg/m ³
Rice Hulls	ACGIH: TWA 4 mg/m ³ (grain dust) OSHA: TWA 10 mg/m ³ (grain dust)
Limestone	OSHA: TWA 15 mg/m ³ dust total OSHA: TWA 5 mg/m ³ respirable fraction
Mineral Oil	OSHA: TWA 5 mg/m ³ ACGIH: STEL 10 mg/m ³ vapor ACGIH: TWA 5 mg/m ³ sampled by method that does not collect vapor

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.

Engineering measures

Laboratory fume hood or local exhaust ventilation.

Personal protective equipment

Respiratory protection : Use an approved respirator.

Eye protection : Goggles Face-shield

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form : dry, free flowing granules

Physical state : solid

Colour : brown

Odour : musty

Safety data

Flash point : no data available

Lower explosion limit : no data available

Upper explosion limit : no data available

Water solubility : insoluble

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SECTION 10. STABILITY AND REACTIVITY

Materials to avoid	: Strong oxidizing agents
Hazardous decomposition products	: Hazardous decomposition products formed under fire conditions.
Thermal decomposition	: Stable under normal conditions.
Hazardous reactions	: Hazardous polymerisation does not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity:	LD50 (rat) > 200 mg/kg mortality (24% monensin sodium mixture)
Acute inhalation toxicity • Monensin Sodium:	LC50 (rat) > 370 mg/m3 (1 h) (24% monensin sodium mixture)
Acute dermal toxicity • Monensin Sodium:	LD50 (rabbit) > 500 mg/kg (24% monensin sodium mixture)
Skin irritation • Monensin Sodium:	rabbit, slight irritation (24% monensin sodium mixture)
Eye irritation • Monensin Sodium:	rabbit, Corrosive Immediate rinsing may prevent permanent damage. (24% monensin sodium mixture)
Sensitisation • Monensin Sodium:	Did not cause sensitization on laboratory animals.
Repeated dose toxicity • Monensin Sodium:	Heart effects (degenerative and reparative tissue changes, electrocardiogram changes, congestive heart failure), muscle effects (skeletal muscle changes, elevated blood enzymes of muscle origin).
Carcinogenicity • Monensin Sodium:	Animal testing did not show any carcinogenic effects.

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Reproductive toxicity

- Monensin Sodium: Animal testing did not show any effects on fertility. Animal testing did not show any effects on foetal development.

Mutagenicity

- Monensin Sodium: Result in genetic toxicity assays (in vitro and in vivo): Negative.

SECTION 12. ECOLOGICAL INFORMATION**Toxicity to fish**

- Monensin Sodium LC50 / 96 h / Oncorhynchus mykiss (rainbow trout): 9.0 mg/l
LC50 / 96 h / Lepomis macrochirus (Bluegill sunfish): 16.6 mg/l

Toxicity to algae

- Monensin Sodium EC50 / 72 h / Selenastrum capricornutum: 4.33 mg/l
(average specific growth rate)
NOEC / Selenastrum capricornutum: 0.055 mg/l
(biomass)

Toxicity to daphnia

- Monensin Sodium EC50 / 48 h/ Daphnia magna (Water flea) : 10.7 mg/l

Lilly Aquatic Exposure Guideline

- Monensin Sodium Drinking Water: 75 µg/l
Chronic Exposure of Aquatic Organisms: 55 µg/l
Acute Exposure of Aquatic Organisms: 562 µg/l

Additional ecological information**Monensin sodium**

Bobwhite 14-day oral median lethal dose: 85.7 mg/kg
Bobwhite 5-day dietary median lethal concentration: 1090 ppm
Mallard 5-day dietary median lethal concentration: > 5000 ppm
Earthworm 14-day median lethal concentration: >264.2 mg/kg
Phytotoxicity 14 species: moderate injury at 4 to 8 mg/kg
Phytotoxicity median effective concentration: oats - 12.9 mg/kg (growth), radish -
>4.347 mg/kg(growth), mungbean - 32.9 mg/kg (emergence)
Soil Microflora

Carbon transformation (18.3 mg/kg): < 25% deviation from controls

Nitrogen transformation (18.3 mg/kg): < 25% deviation from controls

Water Solubility (mg/L): degraded, 4.8, 8.9 (pH 4, 7, 9)

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

Soil adsorption coefficient (log Koc): >5.63 (pH 4.5, 6)

Bioconcentration factor (calculated): 72.4



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SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods : In accordance with local and national regulations.

SECTION 14. TRANSPORT INFORMATION

Other information : Not dangerous goods in the meaning of DOT, IMO/IMDG, ICAO/IATA

SECTION 15. REGULATORY INFORMATION

TSCA Status: Not On TSCA Inventory
22373-78-0 Monensin Sodium
Diluent

DSL Status: This product contains the following components that are not on the Canadian DSL nor NDSL lists.
Diluent

California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SECTION 16. OTHER INFORMATION

Further information

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:



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