



**MATERIAL SAFETY DATA SHEET  
RUMENSIN CAPSULE**

**AH0315**

Revision 1.1 22 November 2006

**STATEMENT OF HAZARDOUS NATURE:**

The Rumensin Capsule is not considered hazardous when intact.

The following Statement of Hazardous Nature refers to the core material which contains monensin:

"Hazardous according to criteria of Worksafe Australia"

Toxic; R25 Toxic if swallowed.

Irritant; R37/38 Irritating to respiratory system and skin.

Irritant; R41 Risk of serious damage to eyes.

**Company Name and Address:**

Elanco Animal Health

A Division of Eli Lilly Australia Pty Ltd

A.B.N. 39 000 233 992

112 Wharf Road, West Ryde, N.S.W. 2114, Australia

**Contact Numbers:**

Tel: (02) 9878 7777

Fax: (02) 9878 7720

**Emergency Telephone Numbers:**

Elanco Animal Health:

1800 226 324 (Toll free)

OR

Poisons Information Centre:

131126 (Australia-wide)

24 hour emergency contact number, CHEMWATCH **1800 039 008** ( spills and accidents)

**Section 1 - Identification**

Product Name: ElancoAH0315 Rumensin Capsule

Other Names: Rumensin CRC, Rumensin Controlled Release Capsule, Rumensin Anti Bloat Capsule

Manufacturer's Product Code: AH0315

UN Number: None allocated

Dangerous Goods Class/Subsidiary Risk: None allocated

Hazchem Code: None allocated

Poisons Schedule Number: S5

Pack Size and Container Type: Box of 10 capsules

**Use:**

Major Recommended Uses: As an aid in reducing bloat in pasture fed cattle. For increased weight gain in beef cattle, depending on the nutritional status of the pasture. For increased milk production in dairy cattle. For treatment and prevention of sub-clinical ketosis in beef and dairy cattle.

Major Recommended Method(s) of Application: Oral

## **Section 2 - Composition / Information on Ingredients**

Ingredient	CAS	Concentration %
Monensin Sodium	22373-78-0	43
Hexaglycerol Distearate	61725-93-7	57

A small amount of silicone oil is added as a lubricant to the inside of the cylinder.

Contains no hazardous components (one percent or greater) or carcinogens (one-tenth percent or greater) not listed above.

Exposure Guidelines: Monensin sodium - LEG 15 micrograms/m<sup>3</sup> TWA for 12 hours.

## **Section 3 - Hazards Identification**

Appearance: Yellow/tan waxy core contained in cylindrical polypropylene open-ended body with retaining wings

Physical State: Solid

Odor: Odorless

Emergency Overview

Primary Physical and Health Hazards: Not hazardous if intact. Toxic. Corrosive (eyes). Irritant (skin, respiratory tract). Suspect Allergen. Heart and Muscle Effects.

Caution Statement: Intact Rumensin Capsule is not considered to be a health hazard. The contents of Rumensin Capsule is toxic, may cause burns or permanent tissue damage to the eyes, may be irritating to the skin and respiratory tract, and may cause allergic reactions. Effects of exposure to the contents of Rumensin Capsule may include changes in heart rate/rhythm and heart and muscle tissue changes.

Routes of Entry: Skin contact.

Effects of Overexposure: Intact capsules are not considered hazardous under normal handling procedures. Skin rash and skin and respiratory tract irritation have been reported. Based on animal studies, may cause burns or permanent tissue damage to the eyes. Immediate rinsing may prevent permanent damage.

Medical Conditions Aggravated by Exposure: Hypersensitivity to monensin sodium.

Carcinogenicity: Monensin sodium - Not listed by IARC, NTP, ACGIH, or OSHA. Not considered carcinogenic in animal studies conducted by Lilly Research Laboratories.  
Hexaglycerol distearate - Not listed by IARC, NTP, ACGIH, or OSHA.

#### **Section 4 - First Aid Measures**

Eyes: The physical nature of Rumensin Capsule and its packaging make injury to the eye, except by accidental mechanical means, extremely unlikely. If by remote circumstances eyes are exposed and irritation develops, contact a physician. Immediate rinsing may prevent permanent damage.

Skin: The physical nature of Rumensin Capsule and its packaging eliminate exposure if proper handling instructions are followed. If contact should occur and irritation develops, contact a physician.

Inhalation: Rumensin Capsule presents negligible human hazard through inhalation because of its physical nature and packaging.

Ingestion: The physical nature and packaging of Rumensin Capsule makes it highly unlikely that it would present an acute oral hazard to humans.

#### **Section 5 - Fire Fighting Measures**

Flash Point: Not applicable.

UEL: Not applicable.

LEL: Not applicable.

Extinguishing Media: Use water, carbon dioxide, dry chemical, foam, or Halon.

Unusual Fire and Explosion Hazards: None known.

Hazardous Combustion Products: May emit toxic fumes when exposed to heat or fire.

#### **Section 6 - Accidental Release Measures**

Spills: Scoop or scrape up for disposal. Prevent spilled material from flowing onto adjacent land or into streams, ponds, or lakes.

#### **Section 7 - Handling and Storage**

Storage: Store below 30°C (Room Temperature) in original container, tightly closed in a dry place.

## **Section 8 - Exposure Controls / Personal Protection**

See Section 2 for Exposure Guideline information.

Respiratory Protection: Use an approved respirator.

Eye Protection: Chemical goggles and/or face shield.

Ventilation: Laboratory fume hood or local exhaust ventilation.

Other Protective Equipment: Wear impermeable gloves when handling the core. Capsule contains a coiled spring. Caution should be exercised when opening the core. Wear impermeable gloves and protective equipment to avoid direct contact with skin.

Other Handling Precautions: CAUTION: DO NOT ALLOW DOGS OR OTHER ANIMALS ACCESS TO RUMENSIN CAPSULE. Consumption of capsule contents can be fatal. Use extreme caution in any decision to re-treat animals as the duration of monensin payout may vary. Re-treatment with a new capsule while the initial capsule is still active (100-130 days after initial treatment) may result in excessive monensin dosage and potential toxicity. Feeding Rumensin or other ionophores during this period may have a similar effect. Do not use in cattle of less than 200 kg (440 lbs) liveweight. Administer Rumensin Capsule using the Rumensin Capsule administration tool. When dosing, the use of excessive force should always be avoided to avoid injury to the animal. Follow directions carefully. Adequate animal restraint is required to properly administer the Rumensin Capsule. A crush or chute used to restrain the animal must limit forward/backward motion and allow the animal's head to be held in the forward extended position and without pressure on the neck (to prevent choking).

NOT INTENDED FOR HUMAN CONSUMPTION.

## **Section 9 - Physical and Chemical Properties**

Appearance: Yellow/tan waxy core contained in cylindrical polypropylene open-ended body with retaining wings

Odour: Odourless

Boiling Point: Not applicable.

Melting Point: 45°C (113°F) (softening point).

Specific Gravity: Not applicable.

pH: Not applicable.

Evaporation Rate: Not applicable.

Water Solubility: Insoluble.

Vapor Density: Not applicable.

Vapor Pressure: Not applicable.

## **Section 10 - Stability and Reactivity**

Stability: Stable at normal temperatures and pressures.

Incompatibility: May react with strong oxidizing agents (e.g., peroxides, permanganates, nitric acid, etc.).

Hazardous Decomposition: May emit toxic fumes when heated to decomposition.

Hazardous Polymerization: Will not occur.

## **Section 11 - Toxicological Information**

### **Acute Exposure**

The physical nature and packaging of Rumensin Capsule makes exposure to significant quantities of the active ingredient, monensin sodium, highly unlikely. Toxicity data for monensin sodium and a 24% monensin sodium mixture are presented as indicated.

Oral: Monensin sodium - Rat, median lethal dose 34 mg/kg, incoordination, reduced activity, skeletal muscle weakness, diarrhea, decreased weight gain.

Skin: 24% Monensin sodium mixture - Rabbit, 500 mg/kg, no deaths or toxicity.

Inhalation: 24% Monensin sodium mixture - Rat, 370 mg/m<sup>3</sup> for 1 hour, no deaths.

Skin Contact: 24% Monensin sodium mixture - Rabbit, slight irritant.

Eye Contact: 24% Monensin sodium mixture - Rabbit, corrosive, but permanent damage prevented by immediate rinsing.

### **Chronic Exposure**

Data for the active ingredient, monensin sodium, are presented.

Target Organ Effects: 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).

Other Effects: Monensin sodium - Decreased body weight gains, increased kidney, heart, thyroid, adrenal, prostate, testes, liver, and spleen weights.

Reproduction: Monensin sodium - No effects identified in animal studies.

Sensitization: Monensin sodium - Guinea pig, not a contact sensitizer.

Mutagenicity: Monensin sodium - Not mutagenic in bacterial cells.

## **Section 12 - Ecological Information**

No environmental data for the mixture or formulation. The environmental data for ingredient(s) or related material(s) are presented.

### **Ecotoxicity Data: Monensin sodium**

Rainbow trout 96-hr median lethal concentration: 9.0 mg/L

Bluegill 96-hr median lethal concentration: 16.6 mg/kg  
 Daphnia magna 48-hr median effective concentration: 10.7 mg/L  
 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 (growth): 12.9 mg/kg (oats), >4.347 mg/kg (radish), 32.9 mg/kg (mung bean)  
 Green algae (*S. capricornutum*) median effective concentration (biomass): 0.98 mg/L  
 Soil Microflora  
     Carbon transformation (18.3 mg/kg): < 25% deviation from controls  
     Nitrogen transformation (18.3 mg/kg): < 25% deviation from controls

Environmental Fate: Monensin sodium  
 Log Kow: 4.24, 2.75, 3.79 (pH 5, 7, 9)  
 Water Solubility at (mg/L): degraded, 4.8, 8.9 (pH 4, 7 and 9)  
 Photolysis half-life (days): 43.9  
 Photolysis rate constant (1/day): 0.0158  
 Hydrolysis: none measured  
 Soil degradation half-life (days): 7.5  
 Soil adsorption coefficient (log Koc): >5.63 (pH 4.5, 6)  
 Soil biodegradation half life (days): 18, 13, 15 (sandy, silt, clay loams)  
 Bioconcentration factor (calculated): 72.4

Environmental Summary: Monensin sodium  
 Highly toxic to algae. Moderately toxic to plants worms, birds and aquatic organisms. No volatility expected. Not expected to bioconcentrate in aquatic organisms. Adsorbs strongly to soil. Not persistent in the environment due to biodegradation and photolysis.

Lilly Aquatic Exposure Guideline (LAEG): Monensin sodium  
 LAEG for Drinking Water: 75 micrograms/L  
 LAEG for Chronic Exposure of Aquatic Organisms: 63 micrograms/L  
 LAEG for Acute Exposure of Aquatic Organisms: 562 micrograms/L

### **Section 13 - Disposal Considerations**

Disposal: Dispose of empty capsules by wrapping in paper and putting in garbage. Capsules still containing monensin core material should be buried in a local authority landfill. If not available bury them below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and roots. Empty containers and product should not be burnt.

### **Section 14 - Transport Information**

No special transport requirements necessary.

### **Section 15 - Other Information**

Sections revised: Header and Footer: Removed automatic print date from header. Pagination changed to page number only. Added CHEMWATCH contact details.. Section 15: Deleted contact point details.

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 MERCHANTABILITY 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.

## GLOSSARY

ACGIH = American Conference of Governmental Industrial Hygienists  
AIHA = American Industrial Hygiene Association  
BEI = Biological Exposure Index  
CAS Number = Chemical Abstract Service Registry Number  
CERCLA = Comprehensive Environmental Response Compensation and Liability Act (of 1980)  
CHEMTREC = Chemical Transportation Emergency Center  
DOT = Department of Transportation  
EC = European Community  
EINECS = European Inventory of Existing Chemical Substances  
ELINCS = European List of New Chemical Substances  
EPA = Environmental Protection Agency  
HEPA = High Efficiency Particulate Air (Filter)  
IARC = International Agency for Research on Cancer  
ICAO/IATA = International Civil Aviation Organization/International Air Transport Association  
IEG = Lilly Interim Exposure Guideline  
IMO = International Maritime Organization  
LEG = Lilly Exposure Guideline  
LEL = Lower Explosive Limit  
MSDS = Material Safety Data Sheet  
NA = Not Applicable, except in Section 14 where NA = North America  
NADA = New Animal Drug Application  
NAIF = No Applicable Information Found  
NCI = National Cancer Institute  
NIOSH = National Institute for Occupational Safety and Health  
NOS = Not Otherwise Specified  
NTP = National Toxicology Program  
OSHA = Occupational Safety and Health Administration  
PEL = Permissible Exposure Limit (OSHA)  
RCRA = Resource Conservation and Recovery Act  
RQ = Reportable Quantity  
RTECS = Registry of Toxic Effects of Chemical Substances  
SARA = Superfund Amendments and Reauthorization Act

STEG = Lilly Short Term Exposure Guideline  
STEL = Short Term Exposure Limit  
TLV = Threshold Limit Value (ACGIH)  
TPQ = Threshold Planning Quantity  
TSCA = Toxic Substances Control Act  
TWA = Time Weighted Average/8 Hours Unless Otherwise Noted  
UEL = Upper Explosive Limit  
UN = United Nations  
WEEL = Workplace Environmental Exposure Level (AIHA)