



**MATERIAL SAFETY DATA SHEET
MONTEBAN**

AF0510

Revision 3.5, 18 October 2006

STATEMENT OF HAZARDOUS NATURE:

"Hazardous according to criteria of Worksafe Australia"

Harmful; R22 Harmful if swallowed.

Corrosive; R34 Causes burns.

Irritant; R37 Irritating to respiratory system.

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)

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

Section 1 - Identification

Product Name: ElancoAF0510 Monteban 100 Narasin Premix

Other Names: Narasin

Manufacturer's Product Code: AF0510

UN Number: None allocated

Dangerous Goods Class/Subsidiary Risk: None allocated

Hazchem Code: None allocated

Poisons Schedule Number: S6

Pack Size and Container Type: 25 kg multiwall paper bag.

Use:

Major Recommended Uses: As an aid to the prevention of coccidiosis caused by *Eimeria acervulina*, *E. brunetti*, *E. maxima*, *E. mivati*, *E. necatrix* and *E. tenella*.

Major Recommended Method(s) of Application: Mixed in feed.

Section 2 - Composition / Information on Ingredients

Ingredient	CAS	Concentration %
Narasin	55134-13-9	10
Diluent, including Anti-dusting Oil NAIF		90

Diluent may include rice hulls, corn grits, or similar.

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

Exposure Guidelines: Narasin - LEG 11 micrograms/m³ TWA for 12 hours.
Grain Dust - PEL 10 mg/m³ TWA. TLV 4 mg/m³ TWA for 8 or 12 hours (total). Lilly preferred exposure limit is TLV.

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

Section 3 - Hazards Identification

Appearance: Grey-brown free-flowing granular material speckled with light tan to yellow particles

Physical State: Solid

Odor: No applicable information found.

Emergency Overview

Primary Physical and Health Hazards: Toxic. Corrosive (eyes, skin). Irritant (respiratory tract). Nervous System, Heart and Muscle Effects.

Caution Statement: Monteban contains narasin, is toxic, may cause burns or permanent tissue damage to the eyes and skin, and may be irritating to the respiratory tract. Effects of exposure may include reduced activity, nerve tissue changes, changes in heart rate/rhythm, heart tissue changes and muscle tissue changes.

Routes of Entry: Inhalation and skin contact.

Potential Signs and Symptoms of Occupational Exposure: Skin rash and respiratory irritation have been reported with occupational exposure to a narasin formulation. Prolonged exposure

to high concentrations of grain dust may cause irritation of the respiratory tract and mucous membranes. Based on animal studies, may cause burns or permanent tissue damage to the eyes and skin.

Medical Conditions Aggravated by Exposure: Hypersensitivity to narasin.

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

Section 4 - First Aid Measures

SPECIFIC FIRST AID INSTRUCTIONS AS PER AUSTRALIAN REGISTERED LABEL1:

If poisoning occurs, contact a doctor or Poisons Information Centre. If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

1Handbook of First Aid Instructions and Safety Directions for Agricultural and Veterinary Chemicals (including Pesticides). Therapeutic Goods Administration

ADDITIONAL INFORMATION PROVIDED BY MANUFACTURER:

Eyes: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. See an ophthalmologist (eye doctor) immediately. Failure to rinse the eyes could result in possible damage.

Skin: Wash all exposed areas with plenty of soap and water. Wash all contaminated clothing before reuse. If irritation occurs and is severe or persistent, contact a physician.

Inhalation: Product is not expected to present a hazard by inhalation due its coarse, granular nature. If inhalation does occur, remove individual to fresh air. Get medical attention if breathing difficulty occurs. If not breathing, provide artificial respiration assistance (mouth-to-mouth) and call a physician immediately.

Ingestion: Call a physician or Poisons Information Centre.

Section 5 - Fire Fighting Measures

Flash Point: No applicable information found.

UEL: No applicable information found.

LEL: No applicable information found.

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

Unusual Fire and Explosion Hazards: As a finely divided material, may form dust mixtures in air which could explode if subjected to an ignition source.

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

Section 6 - Accidental Release Measures

Spills: Sweep or clean with vacuum. Control the dust by use of oils or water during clean-up. Residues may be flushed with water. Use absorbents or cement powder to solidify liquids and dispose as waste. Large spills due to traffic accidents, etc., should be reported immediately to Elanco Animal Health for assistance. Prevent spilled material from flowing onto adjacent land or into streams, ponds or lakes. Wear protective equipment, including eye protection, to avoid exposure (see Section 8 for specific handling precautions).

Section 7 - Handling and Storage

Storage: Store below 30°C (Room Temperature) in a dry place.

Section 8 - Exposure Controls / Personal Protection

See Section 2 for Exposure Guideline information.

SPECIFIC SAFETY INSTRUCTIONS AS PER AUSTRALIAN REGISTERED LABEL¹:
Poisonous if swallowed. Will damage eyes and will irritate the nose and throat and skin. Avoid contact with eyes and skin. Repeated exposure may cause allergic disorders. Do not inhale dust when opening the container and mixing into feed. Wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow length PVC gloves, goggles and disposable dust mask. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, goggles and contaminated clothing.

ADDITIONAL INFORMATION PROVIDED BY MANUFACTURER:

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.

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: In a manufacturing setting, wear chemical-resistant gloves and body covering to minimise 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.

Other Handling Precautions: CAUTION!

¹ Handbook of First Aid Instructions and Safety Directions for Agricultural and Veterinary Chemicals (including Pesticides). Therapeutic Goods Administration

Do not allow adult turkeys, horses or other equines access to formulations containing narasin. Ingestion of narasin by equines and adult turkeys has been fatal. Do not feed to laying chickens. 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.

Section 9 - Physical and Chemical Properties

Boiling Point: Not applicable.

Melting Point: Not applicable.

Specific Gravity: Not applicable.

pH: 7 to 8 (aqueous 50/50).

Evaporation Rate: No applicable information found.

Water Solubility: Insoluble.

Vapor Density: No applicable information found.

Vapor Pressure: No applicable information found.

Section 10 - Stability and Reactivity

Stability: Stable at normal temperatures and pressures.

Incompatibility: May react with strong oxidising 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

Animal Toxicity Data Single Exposure

Oral: Rat, median lethal dose 331 mg/kg, leg weakness, reduced activity, poor grooming, ptosis, and lethargy.

Skin: Rabbit, 5000 mg/kg, no deaths or toxicity.

Inhalation: This formulation is not considered to be an inhalation hazard due to its coarse granular nature and low potential for aerosolisation.

Skin Contact: Rabbit, corrosive.

Eye Contact: Rabbit, corrosive, but permanent damage prevented by immediate rinsing.

Animal Toxicity Data Repeat Exposure

The following effects were reported in chronic, teratogenic, and reproductive toxicity studies with narasin in laboratory animals where experimental dosage levels and durations of exposure were in excess of those likely to occur in humans.

Target Organ Effects: Narasin - Nervous system effects (lesions in peripheral nerves, reduced activity, tremours), heart effects (tissue changes, reduced heart rate, abnormal heart rhythm), muscle effects (skeletal muscle tissue changes).

Other Effects: Narasin - Decreased appetite, laboured respiration.

Reproduction: Narasin - No effects identified in animal studies.

Sensitization: Narasin - Guinea pig, not a contact sensitiser.

Mutagenicity: Narasin - Not mutagenic in bacterial or mammalian 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: Narasin

Rainbow trout 96-hour median lethal concentration: 2.23 mg/L

Bluegill 96-hour median lethal concentration: 5.02 mg/L

Daphnia magna 48-hour median effective concentration: 20.56 mg/L

Bobwhite 14-day oral median lethal dose: 102.9 mg/kg

Bobwhite 5-day dietary median lethal concentration: 800 ppm

Mallard 5-day dietary median lethal concentration: 3800 ppm

Earthworm 14-day median lethal concentration: 17.9 mg/kg

14 Plant species phytotoxicity median effective concentration: 10 to 40 mg/kg

Environmental Fate: Narasin

Log Kow: 4.85 (pH 8)

Bioconcentration Factor: 566

Soil Sorption Coefficient (Kd): 2

Water Solubility (mg/L): 102, 681 (pH 7, 9)

Photolysis Half-Life (days): 1.5 (pH 7)

Hydrolysis Half-Life (days): 3.5, none, none (pH 5, 7, 9)

Soil Degradation Half-Life (days): 8.8

Environmental Summary: Narasin

Moderately toxic to plants, worms, birds, and aquatic organisms. Measurable concentrations in the atmosphere are not expected since it is a non-volatile solid. Water soluble and will not strongly adsorb to sediment or soil or bioconcentrate in aquatic organisms. Dissipates from the aquatic environment by photolysis or biodegradation. Soil concentrations expected to decline quickly due to fairly rapid degradation.

Lilly Aquatic Exposure Guideline (LAEG): Narasin

LAEG for Drinking Water: 30 micrograms/L

LAEG for Chronic Exposure of Aquatic Organisms: 15.5 micrograms/L

LAEG for Acute Exposure of Aquatic Organisms: 139 micrograms/L

Section 13 - Disposal Considerations

Disposal of bags: Shake and empty contents into medicated feed. Do not dispose of undiluted chemicals on site. Puncture or shred and bury empty bags in a local authority landfill. If not available bury the bag below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and roots. Empty bags and product should not be burnt.

Section 14 - Transport Information

No special transport requirements necessary.

Section 15 - Other Information

Sections revised: Section 1 Chemwatch 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

(Abbreviations Used in Material Safety Data Sheets)

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)