Date of preparation:
05 January 2015

SAFETY DATA SHEET

Monotec 200 microGranulate Premix

Section 1: Identification of the Substance and Supplier

Product Name:	**Monotec 200 microGranulate Premix**
ACVM Registration Number:	A10771
Pack sizes:	**20kg, 25kg**
Recommended Use:	A premix feed-additive. Aids in the prevention and control of coccidiosis in poultry, sheep, goats and cattle. Improves milk protein production in dairy cattle. Aids in the control of ketosis in dairy cattle. Aids in the reduction of bloat in cattle.
Company Details:	AgriHealth NZ Ltd Unit 1.2, 89 Grafton Road, Grafton, Auckland 1010, New Zealand Phone: +64 9 215 1199 Fax: +64 9 984 9455 Website: www.agrihealth.co.nz
Emergency Telephone:	National Poisons Centre: 0800 764 766 (0800 POISON) Fire Service, Ambulance: Dial 111

Section 2: Hazards Identification

Classified as a hazardous substance according to the criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.
Monotec 200 microGranulate Premix is approved pursuant to the HSNO Act 1996, **HSR002317.** The EPA website www.epa.govt.nz should be consulted for the full list of triggered controls and cited regulations.

Hazard Classifications:	6.1B (acute toxin) 6.3B (skin irritant) 6.5B (contact sensitizer)

	8.3A (eye corrosive) 9.1D (aquatic ecotoxin) 9.2D (soil ecotoxin) 9.3A (terrestrial vertebrate ecotoxin)
Signal word:	DANGER
Hazard statements:	Toxic if swallowed
	Causes mild skin irritation
	May cause an allergic skin reaction
	Causes serious eye damage
	Toxic to aquatic life
	Harmful to the soil environment
	Very toxic to terrestrial vertebrates
Precautionary statements:	Keep out of reach of children
	Read label before use
	If medical advice is needed, have product container or label at hand
	Wear protective gloves, clothing, face and eye protection
	Wash hands and exposed skin thoroughly after handling
	Do not eat, drink or smoke when using this product
	Contaminated work clothing should not be allowed out of the workplace
	Wash contaminated clothing before reuse
	IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.
	Rinse mouth
	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE or doctor/physician
	Avoid breathing dust
	IF ON SKIN: Wash with plenty of soap and water
	If skin irritation or rash occurs: Get medical advice/attention Avoid release to the environment
	Collect spillage
	Store locked up

Section 3: Composition / Information on Ingredients

Product Components:

Name	CAS Number	Concentration
Monensin sodium	22373-78-0	20%
Non-hazardous components	N/A	80%

N/A = not applicable or not available

Section 4: First Aid Measures

First Aid Measures:

For advice contact the National Poisons Centre on 0800 POISON (0800 764 766) or a doctor, immediately.

Skin Contact: If skin contact occurs remove contaminated clothing and wash skin with soap and water. If skin irritation, rash or symptoms occur or persist, consult a doctor.

Eyes: If eye contact occurs, flush eyes with water for at least 15 minutes. See an ophthalmologist or other physician immediately. Immediate rinsing may prevent permanent eye damage. If wearing contact lenses, remove only after initial rinse and continue rinsing.

Ingestion: If swallowed seek medical attention. DO NOT induce vomiting.

Inhalation: Remove to fresh air. If symptoms occur or persist, consult a doctor.

Workplace Facilities: No special facilities are required.

Required Instructions: Observe good work practices and avoid skin contact.

Wash hands and exposed skin before meals and after use.

Do not eat or drink while using.

Persons who present hypersensitivity to Monotec 200 microGranulate Premix should be withdrawn from the production area.

Notes for Medical Personnel: Treat exposed patients symptomatically.

Section 5: Fire Fighting Measures

Type of hazard: Non-flammable

Fire Hazard Properties: May emit toxic fumes when exposed or heat or fire.

Extinguishing Media and Methods: Water, dry chemical, carbon dioxide, or foam

Hazchem Code: Not applicable

Recommended Protective Clothing: Wear full protective clothing and self-contained breathing apparatus (SCBA)

Section 6: Accidental Release Measures

Emergency Procedures: Wear suitable protective clothing including eye protection. Restrict access to contaminated area. Prevent further spillage. Retrieve intact containers from site. Place damaged containers into containment devices. 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. Take care not to disperse the dust. Place spilled material in sealable containers for disposal. Wash the area with water and detergent. Absorb washings and place in the same sealable container for disposal. Avoid contamination of water courses or sewers. Dispose of waste safely.

Section 7: Handling and Storage

Precautions for Safe Handling: Wear protective gloves, clothing, eye and face protection
Avoid contact with skin, eyes and mucous membranes
Avoid the formation of dust and aerosols. Avoid breathing dust.
Provide exhaust ventilation if dust is formed

Regulatory Requirements: Not applicable

Handling Practices: When handling and mixing, use protective clothing, impervious gloves and dust respirator. Avoid skin contact. Wash hands and exposed skin thoroughly after handling and before meals. Do not eat, drink or smoke while using this product.

Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

Approved Handlers: Not required

Conditions for Safe Storage: Store below 25°C. Store in the original container in a dry place, away from direct heat or direct sunlight. Keep container sealed when not in use. Keep out of reach of

	children. Secure this product when not in use so that it cannot be accessed by people who should not have access (store locked up).
Store Site Requirements:	This product is subject to a requirement for an emergency response plan whenever it is held in quantities of 100kg or more. Signage is required when it is held in quantities of 100kg or more.
Packaging:	Store in original container, away from foodstuffs. UN packing group III

Section 8: Exposure Control / Personal Protection

Workplace Exposure Standards:	None set
Application in the Workplace:	Prevent exposure by using engineering controls, personal protective equipment and work practices that prevent skin contact. When handling and mixing, use protective clothing, impervious gloves and dust respirator. Avoid skin contact. Wash hands and exposed skin thoroughly after handling. If accidental eye contact occurs, immediately rinse with plenty of water.
Exposure Standards outside the Workplace:	None set
Engineering Controls:	Ensure adequate ventilation.
Personal Protection:	Wear protective gloves, eye safety glasses and protective clothing and face protection. Do not eat, drink or smoke when using this product. Wash hands with soap and water before breaks and after work. Keep away from foodstuffs and beverages.
Additional Exposure Precautions:	Do not feed undiluted to animals. Do not allow horses or other equines access to feeds containing monensin sodium. Ingestion of monensin sodium by horses has been fatal. The feeding of undiluted premix or feeds containing high concentrations of monensin sodium (mixing errors) could be fatal to cattle. Monensin sodium is safe at approved dosages for use in approved species only. Consumption by unapproved species may result in toxic reactions.

Section 9: Physical and Chemical Properties

Product Properties:	Appearance:	Brown granules
	pH of 1% Solution:	6.0 – 9.0
	Ignition Temperature:	440 °C (swirled up dust)
	Self-ignition temperature:	A shelf-heating process with a maximum temperature of approx. 300 °C
	Minimum layer ignition temperature:	> 400 °C
	Flame Temperature:	570 °C
	Temperature range of ignition in air:	540 °C – 610 °C
	Explosion Limits:	Lower concentration limit 95 - 100 g/m^3 Upper concentration limit over 2000 g/m^3
	Maximum pressure of explosion:	75 – 100 MPa
	Maximum energy of ignition:	68 – 75 J
	Vapour Pressure:	non volatile
	Solubility in Water:	Insoluble
	Melting Point:	N/A
	Boiling Point:	N/A

Section 10: Stability and Reactivity

Stability of the Substance:	Stable under normal conditions of use and storage
Conditions to Avoid:	No specific conditions to avoid
Material to Avoid:	May react with strong oxidizing agents (e.g. peroxides, permanganates, nitric acid, etc)
Hazardous Decomposition Properties:	May emit fumes when heated to decomposition
Hazardous Polymerisation:	Components are not expected to form hazardous polymers

Section 11: Toxicological Information

HSNO Classification: 6.1B, 6.3B, 6.5B, 8.3A

No data is available for the formulated product. The following information relates to monensin sodium.

ACUTE ORAL TOXICITY

- *Mice*:
  - Female: Monensin sodium: LD_{50} = 203 mg/kg b.w.
  - Male: Monensin sodium: LD_{50} = 400 mg/kg b.w.

- *Rats*:
  - Female: Monensin sodium: LD_{50} = >>150 mg/kg b.w.
  - Male: Monensin sodium: LD_{50} = >> 400 mg/kg b.w.
- Chickens for fattening: Monensin sodium: LD_{50} = >>375 mg/kg b.w.
- Turkeys: Monensin sodium: LD_{50} = >>300 mg/kg b.w.

ACUTE INHALATORY TOXICITY

Monensin sodium – albino rats for 4-hour exposure - LC_{50} (male) = 69.0 $mg.m^{-3}$;
LC_{50} (female) = 51.9 $mg.m^{-3}$.
Absolute lethal concentration (LC_{100}) for both male and female – 138.3 $mg.m^{-3}$.

ACUTE DERMAL TOXICITY

Monensin sodium – albino rats - LD_{50} (male) = 685.60 $mg.kg^{-1}$; LD_{50} (female) = 549.60 $mg.kg^{-1}$.

EYE IRRITATION

Monensin sodium - rabbit – causes insignificant eye irritation with symptoms of pain and changes in the cornea and the conjunctiva of the eye.

SKIN IRRITATION

Monensin sodium – rabbits – 500 mg/kg b.w. – no skin irritation and skin corrosive effect.

SKIN SENSITISATION EFFECT

Monensin sodium – albino guinea pigs – not a contact sensitiser.

MUTAGENICITY

MONOTEC 200 MICROGRANULATE PREMIX cannot be considered as a potential mutagenic additive as the results from four mutagenicity tests performed with monensin sodium were all negative: Bacterial Reverse Mutation Test; Bone Marrow Micronucleus Test by Oral Route in Mice; In Vitro Mammalian Cell Gene Mutation Tests in Mouse Lymphoma Cells; In Vitro Mammalian Chromosome Aberration Test in Cultured Human Lymphocytes.

REPRODUCTION TOXICITY

MONOTEC 200 MICROGRANULATE PREMIX does not induce reproduction toxicity as studies conducted with monensin sodium in rats and rabbits failed to reveal any side effects for reproduction and the offspring at doses not exceeding the maximum tolerated dose for the parents.

Section 12: Environmental Information

HSNO Classification: 9.1D, 9.2D, 9.3A

No data is available for the formulated product. The following information relates to monensin sodium.

Ecotoxicity Data (Monensin sodium):

- Rainbow trout 96-hour median lethal concentration: 1.88 mg/L.
- Daphnia magna 48-hour median effective concentration: 7.29 mg/L.
- Algae median effective concentration (growth rate 0-72 h): 3.41 mg/L.
- Earthworm 14-day median lethal concentration: 112.07 mg/kg.
- Phytotoxicity median effective concentration (growth) – 3 species:
  - Wheat: 29 mg/kg;
  - Mustard: 4 mg/kg;
  - Red clover: 8 mg/kg.
- Soil microflora:
  - Carbon transformation: NOEC > 5 mg/kg (< 25% deviation from controls)
  - Nitrogen transformation: NOEC > 5 mg/kg (< 25% deviation from controls)

Environmental Fate (Monensin sodium):

- Log Kow: > 6.2 (6.59).
- Soil adsorption coefficient (log Koc): 1.79 – 2.49
- Water solubility: 8.78 mg/L.
- Soil biodegradation half-life (days):
  - Sandy loam: 2.3.
  - Clay loam: 4.0.
  - Silt loam: 2.5.

Environmental Summary (Monensin sodium):
MONOTEC 200 MICROGRANULATE does not bear risk for the soil and/or aquatic compartments based on the outcome of the ecotoxicity data and environmental fate of monensin sodium, which constitutes 20% of the formulation.

Environmental Risk and Safety Phrases:	Harmful to aquatic organisms. Avoid contamination of any water supply with product or empty container. Harmful to the soil environment. Avoid release to the environment. Very toxic to terrestrial vertebrates, especially to horses and dogs. Do not allow dogs, horses or other equines

access to feeds containing monensin. Ingestion by horses may be fatal. Prevent access and avoid release to the environment.

Section 13: Disposal Considerations

Disposal Information: Preferably dispose of the product by use. Otherwise dispose of product and packaging at an approved landfill or other approved facility. Avoid contamination of any water supply with product or empty container.

Section 14: Transport Information

Land Transport Not Classified as dangerous goods for transport under NZ Standard 5433:2007 Transport of Dangerous Goods on Land.

Air Transport Not Classified as dangerous goods for transport under International Civil Aviation Organisation and International Air Transport Association regulations

Sea Transport Not Classified as dangerous goods for transport under International Maritime Organisation regulations

The maximum quantity of this substance allowed for carriage on public service vehicles is 0.5kg.

Section 15: Regulatory Information

Regulatory Status: Registered pursuant to the ACVM Act 1997, No A10771
See www.foodsafety.govt.nz for registration conditions

HSNO and ACVM Controls: Refer to section 2

List Exposure Limits: None set

An SDS must be provided whenever **any quantity** of Monotec 200 microGranulate Premix is sold or supplied.

An emergency response plan is required when stored in quantities of **100kg** or greater.

Signage is required for this substance when stored in quantities of **100kg** or greater.

Section 16: Other Information

Additional Information: For product information see the AgriHealth website: www.agrihealth.co.nz

Date of preparation: 05 January 2015
Due for revision within 5 years.

completeness of the information contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequence of its use. AgriHealth Ltd urges the recipient of this SDS to study it carefully to become aware of, and understand, the hazards associated with the product as well as determine the suitability of the information for the intended purpose.