Section 1 – Identification of the substance/preparation and the company

Product Name: DONAGHYS PROMONENSIN PREMIX 20
Company: Donaghys Ltd
Address: 16 Sheffield Crescent
PO Box 20 449
Christchurch
Telephone Number: 0800 942 006
Manufacturer Product Code: An in-feed premix to aid in the prevention of bloat, ketosis and coccidiosis in cattle, sheep and goats. For increased milk production in dairy cattle.

Section 2 – Hazard Identification

Classified as Hazardous Substance according to the criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001
Donaghys ProMonensin PreMix 20 is approved pursuant to the HSNO Act 1996, HSR 2317. The EPA website www.epa.govt.nz should be consulted for the full list of triggered controls and cited regulations.
HSNO Hazard Classification: 6.1B, 6.3B, 6.5B, 8.3A, 9.1D, 9.2D, 9.3A
EPA NZ Approval Code: HSR002317

Section 3 – Composition Information

<table>
<thead>
<tr>
<th>Chemical Entity</th>
<th>CAS No.</th>
<th>Content [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monensin sodium</td>
<td>22373-78-0</td>
<td>20%</td>
</tr>
<tr>
<td>Other ingredients, including diluents and anti-dusting agent</td>
<td>Trade Secret</td>
<td>80%</td>
</tr>
</tbody>
</table>

Section 4 – First Aid Measures

If swallowed: NEVER give anything by mouth to an unconscious person. Do not induce vomiting. Immediately call a POISON CENTRE or doctor/physician.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so, continue rinsing. Immediately call a POISON CENTRE or doctor/physician.
If on skin: Wash with plenty of soap and water. Wash contaminated clothing before re-use. If irritation persists call a POISON CENTRE or doctor/physician.
If inhaled: Product is not expected to present a hazard by inhalation due to coarse nature. If inhalation does occur, remove individual to fresh air. If not breathing, provide artificial respiration assistance and call a doctor/physician.

POISON CENTRE CONTACT: 0800 764 766 (National Poisons Information Centre)

Section 5 – Fire-fighting Measures

IN CASE OF EMERGENCY PHONE
National Poisons Centre 03-474-4700 or 0800 POISON (0800-764-766)
Section 6 – Accidental Release Measures

Spills and Disposal: MAJOR/ MINOR SPILLS
Slippery when spilt. Minor hazard.
1: Clear area of personnel.
2: Alert Fire Brigade and tell them location and nature of hazard.
3: Control personal contact by using protective equipment as required.
4: Prevent spillage from entering drains or waterways.
5: Vacuum material with appropriate dust collection filter in place. Be aware of potential dust explosion when using electrical equipment. If vacuum is not available, lightly mist material and remove by sweeping or wet wiping.
6: Collect recoverable product into labelled containers for recycling.
7: Prevent runoff into drains or waterways.
8: If contamination of drains or waterways occurs, advise emergency services.

Disposal:
1: Recycle wherever possible or consult manufacturer for recycling options.
2: Consult State Land Waste Management Authority for disposal.
3: Treat and neutralise with slaked lime at an effluent treatment plant.
4: Recycle containers; otherwise dispose of in an authorised landfill.

Environmental Precautions: Avoid entry into waterways or streams. Prevent washings from entering waterways.

Section 7– Handling and Storage
Storage: SUITABLE CONTAINER

Keep out of reach of children. Protect from direct heat and sunlight. Check all containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY
N/A

STORAGE REQUIREMENTS
1: Store in original containers.
2: Keep containers securely sealed and locked away to prevent access of unauthorized personnel.
3: Store securely in dry place.
4: Store away from foodstuff containers, seeds, fertilizers and pesticides.
5: Protect containers against physical damage and check regularly for leaks.
6: Observe storing and handling recommendations on label.
7: This substance is subject to a requirement for a Level 2 emergency management plan, secondary containment and signage, whenever it is held in quantities of 100kg or more.

Handling:

Do not handle until all safety instructions have been read and understood.
Wear eye protection. Do not breathe dust.
Wash hands and exposed skin thoroughly after handling.
Avoid release to the environment.

Section 8 – Exposure Controls/Personal Protection

These precautions are suggested for conditions where the potential for exposure to the product exists. Emergency conditions may require additional precautions.

Exposure Limits: Monensin sodium: LEG 15 µg/m³
Anti-dusting agents reduce potential exposure under normal conditions of use.

Protective Equipment:
Observe good work place practices and avoid contact with skin and eyes. Wear overalls, dust respirator, safety glasses and neoprene gloves when handling. Wear eye / face protection.

Hygiene Precautions:
Do not eat, drink or smoke when using this product.

Engineering Controls:
In a manufacturing setting, wear chemical-resistant gloves and body covering to minimize skin contact. If handled in a ventilated enclosure, as in laboratory setting, respirator and goggles or face shield may not be required. Safety glasses are always required.

Precautions:
Do not feed undiluted to animals. Do not allow dogs, horses or other equines access to feeds containing monensin sodium. Ingestion of monensin sodium by horses has been fatal.

IN CASE OF EMERGENCY PHONE
National Poisons Centre 03-474-4700 or 0800 POISON (0800-764-766)
The feeding of undiluted premix or feeds containing high concentrations of monensin sodium could be fatal to cattle. Monensin sodium-medicated feed is safe at approved dosages for use in approved species only. Consumption by unapproved species result in toxic reactions.

Section 9 – Physical and Chemical Properties

**Appearance:** Brown powder  
**Odour:** N/A  
**Specific Gravity:** N/A  
**pH:** N/A  
**Vapour Pressure:** N/A  
**Flash Point:**

Section 10 – Stability and Reactivity

**Stability:** Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.  
**Conditions to Avoid:** None known  
**Materials to Avoid:** Store only in the container supplied. Use the recommended delivery equipment. May react with strong oxidizing agents.  
**Hazardous Decomposition Products:** None if stored and handled correctly. If product is involved in fire toxic fumes may be formed.

Section 11 – Toxicological Information

No data is available for mixture. Data for active ingredient is presented.  
**Acute oral:** 24% Monensin sodium mixture: Rat LD$_{50}$ estimated greater than 200 mg/kg, mortality.  
**Acute dermal:** 24% Monensin sodium mixture: Rabbit, 500 mg/kg, no deaths or toxicity.  
**Acute inhalation:** 24% Monensin sodium mixture: Rat, 370 mg/m$^3$ for 1 hour, no deaths.  
**Skin irritation:** 24% Monensin sodium mixture: Rabbit, slight irritant.  
**Eye irritation:** 24% Monensin sodium mixture: Rabbit, corrosive, but permanent damage prevented by immediate rinsing.  
**Sensitization:** Monensin sodium: Guinea pig, not a contact sensitizer.  
**Repeated dose toxicity:** Monensin sodium: Heart effects (degenerative and reparative tissue changes, congestive heart failure), muscle effects (skeletal muscle changes, elevated blood enzymes of muscle origin). Decrease body weight gains, increased kidney, heart, thyroid, adrenal, prostate, testes, liver, and spleen weights.  
**Carcinogenicity:** Monensin sodium: Not listed by IARC, NTP, ACGIH, or OSHA.  
**Mutagenicity:** Monensin sodium: Not mutagenic in bacterial cells.

Section 12 - Ecological Information

IN CASE OF EMERGENCY PHONE  
National Poisons Centre 03-474-4700 or 0800 POISON (0800-764-766)
Toxicity to fish: Monensin sodium: LC₅₀/96h/Rainbow Trout: 9.0 mg/L. LC₅₀/96h/Blugill: 16.6 mg/L.
Toxicity to algae: Monensin sodium: Green algae (S. capricornutum) median effective concentration (biomass): 0.98 mg/L.
Toxicity to daphnia: Monensin sodium: EC₅₀/48h/Daphnia magna: 10.7 mg/L
Toxicity to earthworms: Monensin sodium: LC₅₀/14d/ Earthworms: >264.2 mg/kg.
Toxicity to birds: Monensin sodium: LC₅₀/14d oral/ Bobwhite: 85.7 mg/kg. LC₅₀/5d dietary/ Bobwhite: 1090 ppm. LC₅₀/5d dietary/ Mallard: >5000 ppm.
Any other relevant information available: Monensin sodium: Phytotoxicity median effective concentration (growth): 12.9 mg/kg (oats), >4.347 mg/kg (radish), 32.9 mg/kg (mung bean).
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 (mg/L): degraded, 4, 8, 8.9 (pH 4, 7, 9).
Photolysis half-life (days): 43.9.
Photolysis rate constant (1/day): 0.0158.
Soil degradation half-life (days): 18, 13, 15 (sandy, silt, clay loams).
Bioconcentration factor (calculated): 72.4.
Monensin sodium: No volatility expected. Not expected to bioconcentrate in aquatic organisms. Absorbs strongly to soil. Not persistent in the environment due to biodegradation and photolysis.

Section 13 – Disposal Considerations

Product Disposal: If possible dispose of by using according to the label, otherwise dispose of in an approved landfill or bury below 50 cm in a disposal pit specifically marked and set up for this purpose clear of waterways.
Container Disposal: Triple rinse container and add residue to feed system. If circumstances, especially wind direction, permit the empty containers may be burned, otherwise crush and bury in a suitable landfill.

Section 14 – Transport Information

Proper Shipping Name: N/A
UN Number: N/A
DG Class: N/A
Subsidiary Risk Class: N/A
Packing Group: III
HAZCHEM Code: N/A

Section 15 – Regulatory Information

ERMA NZ Registration Code: HSR002317

IN CASE OF EMERGENCY PHONE
National Poisons Centre 03-474-4700 or 0800 POISON (0800-764-766)
IN CASE OF EMERGENCY PHONE
National Poisons Centre 03-474-4700 or 0800 POISON (0800-764-766) Version: 2614

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Date: 27/11/2014

NZFSA Approval Number: See http://www.epa.govt.nz for approval conditions
A010934
See www.foodsafety.govt.nz for registration conditions

Section 16 – Other Information

The information in this MSDS is provided in good faith, but no warranty, expressed or implied is made. Contact Donaghys Ltd for more information.

EMERGENCY CONTACT No.: 0800 764 766 (National Poisons Information Centre)