

SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND SUPPLIER

Product name:	Exodus 1% Injection
Product code:	A010759
Recommended use:	For the control & treatment of internal and external parasites in cattle and internal parasites and nasal bot in sheep
Company details:	Boehringer Ingelheim Animal Health New Zealand Limited
Address:	Level 3, Boehringer Ingelheim Building 2 Osterley Way Manukau City Auckland 2104 New Zealand
Telephone number:	Phone: +64 9 263 1400
Emergency telephone number:	Boehringer Ingelheim Freephone: 0800 800 822 National Poisons Centre : 0800 764 766 (0800 POISON) Fire Service, Ambulance : Dial 111
Date of issue:	April 2014
Date of review:	4 February 2020

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS**Chemical characterization:**

Product components:	Chemical Name	CAS	Proportion
	Moxidectin	113507-06-5	10 g/L
	Benzyl alcohol	100-51-6	<10%
	Other	-	To 1 L

SECTION 3: HAZARDS IDENTIFICATION

Hazard classifications:	6.1E, 6.5B, 6.8B, 6.8C, 6.9B, 9.1A, 9.2C, 9.4B
Priority and secondary identifiers:	Warning KEEP OUT OF REACH OF CHILDREN FOR ANIMAL TREATMENT ONLY Warning Dangerous to the environment
Risk and safety phrases:	6.1E May be harmful if swallowed, inhaled or absorbed through the skin. 6.5B May cause an allergic skin reaction. Avoid skin contact. 6.8B Suspected of damaging fertility or the unborn child from repeated oral exposure. 6.8C May cause harm to breast-fed children from repeated oral exposure. 6.9B May cause target organ damage from repeated oral exposure at high doses. 9.1A Very toxic to aquatic organisms. Avoid contamination of any water supply with product or empty container. 9.2C Harmful to the soil environment. 9.4B Toxic to terrestrial invertebrates.

SECTION 4: FIRST AID MEASURES

Necessary first aid measures:	For advice contact the National Poisons Centre at 0800 POISON (0800 764 766) or a doctor immediately. If the patient is not breathing, begin artificial respiration and seek medical advice immediately. Never give fluids or induce vomiting if a patient is unconscious or
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convulsing, regardless of injury.

INGESTION: Seek medical advice immediately. DO NOT induce vomiting. If the patient is conscious, wash mouth out with water. Do not give anything by mouth to an unconscious person.

EYES: Flush the eye(s) out with running water for at least 15 minutes. Removal of contact lenses should be done with caution within 5 minutes of exposure. If symptoms develop, seek medical advice immediately.

SKIN: Remove any contaminated clothing and wash the affected area immediately with soap and water. If symptoms develop, seek medical advice immediately.

INHALATION: Move the patient to fresh air. If symptoms develop, seek medical advice immediately.

SELF-INJECTION: Immediate medical advice should be sought on the management of all instances of accidental self-injection, particularly those near a joint or associated with bruising. Allow the wound to bleed freely and avoid squeezing the injection site to avoid spread of the product. Clean the wound thoroughly with soap and water, then keep it clean and dry.

Poisoning Symptoms: No specific information available.

Workplace facilities: No special facilities required. Standard emergency equipment must be available.

Required instructions: Observe good work practices and avoid skin and eye contact, self-injection, ingestion and inhalation of dusts, mists or vapours. Do not eat, drink or smoke while using this product. Wash hands and exposed skin before eating, drinking or smoking and after work. Launder protective clothing after use separately from other clothing, and before each reuse.

Notes for medical personnel: Apply symptomatic therapy (no specific antidote). Note the nature of the product (possible irritant, reproductive/developmental toxin and sensitiser).

SECTION 5: FIRE FIGHTING MEASURES

Type of hazard:	Non-flammable, Non-combustible, Non explosive.
Fire hazard properties:	This product does not burn. There is no risk of an explosion from this product under normal circumstances if it is involved in a fire. It will produce only minor quantities of decomposition products at temperatures normally achieved in a fire. Likely to decompose only after heating to dryness followed by further strong heating.
Regulatory requirements:	Not applicable
Extinguishing media and methods:	Use dry chemical, foam, carbon dioxide or water to extinguish fires involving this product.
Hazchem code:	3Z
Recommended protective clothing:	During large-scale fire-fighting operations wear approved positive pressure, self-contained breathing apparatus and full protective turn-out gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Personnel involved in clean-up should wear appropriate personal protective equipment to minimise exposure. This may include eye protection, chemically resistant gloves, boots and

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overalls.

Prevent material from entering surface water drains or waterways. If a significant quantity of material enters drains, advise emergency services

Environmental precautions:

Procedure for Spills:

1. Non-essential personnel should be evacuated from the affected area.
2. Stop leak and contain the source of spill if it is safe to do so. Reposition any leaking containers to minimise further leakage.
3. Absorb the spill with an absorbent material (e.g. sand).
4. Collect the spilled material into labelled containers for disposal, minimising dust generation.
5. Decontaminate the spill area thoroughly with detergent and water, preventing runoff from entering drains.

Procedure disposal:

for Contaminated material must be disposed of at an approved landfill or other approved facility in accordance with local, regional and national requirements. Avoid contamination of any water supply with product or empty container

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:

Keep exposure to this product to a minimum and minimise the quantities kept in work areas. Ensure the personal protective measures outlined in Section 8 are followed, and avoid contact or contamination with incompatible materials listed in Section 10. The measures detailed under "Storage" below should be followed during handling to minimise risks to persons using the product in the workplace.

Regulatory requirements:

N/A

Handling practices:

Avoid self-injection, ingestion, contact with skin and eyes, and inhalation of dusts, mists or vapours. Do not eat, drink or smoke while handling this product. Wash hands and exposed skin before eating, drinking or smoking and after work. Wash any protective clothing after use.

Approved handlers:

Not required

Conditions for safe storage:

Store below 25 °C. Protect from light. Use within 35 days of opening. Keep out of reach of children.

Store site requirements:

A requirement for an emergency management plan, secondary containment and signage is applicable when quantities of 100 L or more are stored.

Packaging:

Packaging Schedule 3 (UN Packing Group III) for quantities >5 L (Hazardous Substances Packaging Regulations 2001). Store in the original container, away from foodstuffs

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Workplace exposure standards:

A time weighted average (TWA) concentration for an 8-hour day and a 5-day week has not been established by NOHSC Australia for any of the major ingredients in this product. There is a blanket limit of 10 mg/m³ for dusts or mists when limits have not otherwise been established.

Application in the workplace:

The nature of this product makes it unlikely that this level will be approached during normal handling. Prevent exposure by using engineering controls, personal protective equipment and work practices that prevent skin and eye contact.

Exposure standards outside the

Moxidectin:
• ADE: 0.002 mg/kg bw/day

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workplace:	<ul style="list-style-type: none">▪ PDE_{food}: 0.0014 mg/kg bw/day▪ PDE_{drinking water}: 0.0004 mg/kg bw per day▪ PDE_{dermal}: 0.0002 mg/kg bw per day▪ TEL_{skin surface deposition}: 0.03 mg/m²▪ EEL_{water}: 0.0000003 mg/L
Engineering controls:	Engineering controls should be used as the primary means to control exposures. Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits
Personal protection:	<p>The following instructions are for those coming into frequent and / or lengthy contact with this product. For occasional handling employ precautions suitable for the conditions under which the product is being handled.</p> <p>Hands: Impervious protective gloves should be worn when handling this product to prevent irritation. Consult AS/NZS 2161 for guidance.</p> <p>Eyes: Protective eyewear should be worn when handling this product as eye contact may prove painful and dangerous, and should be avoided. Consult AS/NZS 1336 and 1337 for guidance.</p> <p>Skin: Clean overalls or protective clothing, including safety boots, should be worn. Consult AS/NZS 2919 and 2210 for guidance.</p> <p>Respiratory: Respiratory protection is not normally required; however, if the product is being handled in dusty or confined conditions, use of a mask or respirator may be preferred. Consult AS/NZS 1715 for guidance.</p>
General Hygiene:	Change work clothes regularly. Avoid self-injection, ingestion, contact with skin and eyes, and inhalation of dusts, mists or vapours. Do not eat, drink or smoke while handling this product. Wash hands and exposed skin before eating, drinking or smoking and after work. Wash any protective clothing after use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specify product data:

Formulation type	Solution
Appearance	Yellowish liquid
Specific gravity/Density	0.9-1.2
pH:	Approximately 6.2
Boiling point:	ca 100 °C
Vapour Pressure	N/A
Solubility in Water	Soluble in water
Flashpoint	Not applicable. This product is not a flammable.
Oxidising Properties	Not applicable. This product is not an oxidiser.
Corrosive Properties	Not applicable. This product is not corrosive.

Required specifications: N/A

Further specifications: N/A

Specific advice: N/A

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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:	No specific materials to avoid.
Hazardous decomposition products:	This product is unlikely to spontaneously decompose. No hazardous products are expected, except when heated to decomposition.
Hazardous polymerization:	Components are not expected to form hazardous polymers.
Specific data:	N/A

SECTION 11: TOXICOLOGICAL INFORMATION

Data and interpretation:	6.1E May be harmful if swallowed, inhaled or absorbed through the skin. 6.5B May cause an allergic skin reaction. Avoid skin contact. 6.8B Suspected of damaging fertility or the unborn child from repeated oral exposure. 6.8C May cause harm to breast-fed children from repeated oral exposure. 6.9B May cause target organ damage from repeated oral exposure at high doses.
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Summaries data:

Acute effects

Moxidectin: Moxidectin is a macrocyclic lactone, structurally similar to ivermectin, abamectin and milbemycin. Moxidectin is an acute oral toxin with nervous system effects [LD50 (oral, mice) 42 mg/kg, LD50 (dermal) is >2000 mg/kg]. Only mild signs of skin irritation were seen (rabbit, exposure for up to 72 hrs). Moderate eye irritation was noted (rabbit), but signs resolved 48-72 hrs after treatment.

Laboratory rodent reproductive studies reported foetal malformations, decreased number of live births, reduced pup weights and neonatal & lactational deaths [lowest NOEL 0.4 mg/kg/day]. A chronic feeding study (90 days; 0 to 1.6 mg/kg/d) induced toxicity in dogs. At the highest dose lacrimation, tremors, salivation, slight ataxia and a languid appearance were reported. Dose dependant reductions in absolute body weight and food consumption were noted [NOEL 0.3 mg/kg]. In a second study (52 weeks; 0-1.15 mg/kg/d), no signs of toxicity occurred and body weights remained comparable to controls throughout the study [NOEL 1.15 mg/kg]. Moxidectin is not mutagenic or carcinogenic.

Benzenemethanol: Benzyl alcohol is an acute toxin [LD50 (oral, rabbit) 1040 mg/kg, LD50 (dermal, rabbit) 2000 mg/kg], an eye irritant and a contact sensitizer.

Chronic/Long Term Effects

Moxidectin: Laboratory rodent reproductive studies reported foetal malformations, decreased number of live births, reduced pup weights and neonatal & lactational deaths [lowest NOEL 0.4 mg/kg/day]. A chronic feeding study (90 days; 0 to 1.6 mg/kg/d) induced toxicity in dogs. At the

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highest dose lacrimation, tremors, salivation, slight ataxia and a languid appearance were reported. Dose dependant reductions in absolute body weight and food consumption were noted [NOEL 0.3 mg/kg]. In a second study (52 weeks; 0-1.15 mg/kg/d), no signs of toxicity occurred and body weights remained comparable to controls throughout the study [NOEL 1.15 mg/kg]. Moxidectin is not mutagenic or carcinogenic.

SECTION 12: ENVIRONMENTAL INFORMATION

Potential environmental interactions:	9.1A Very toxic to aquatic organisms. Avoid contamination of any water supply with product or empty container. 9.2C Harmful to the soil environment. 9.4B Toxic to terrestrial invertebrates.
Data organisation:	Moxidectin Moxidectin is an effective insecticide and acaricide. It acts on the gamma-aminobutyric acid as an inhibitory neurotransmitter, causing paralysis of the parasite. It is highly toxic to invertebrates in the aquatic, soil and terrestrial environments. Moxidectin is very toxic to aquatic life [Bluegill sunfish LC50 (96 hrs) 0.62 ppb; Rainbow trout LC50 (96 hrs) 0.16 ppb; Daphnia magna EC50 (48 hrs) 30 ppt; bioaccumulative] and soil life [Dung beetle EC50's are 2.5677 mg/kg; 0.4693 mg/kg & 0.134 mg/kg. Soil DT50 > 30 days]. Moxidectin is also very toxic to terrestrial vertebrates [LD50 (mice) = 42 mg/kg] and bees [LD50 (oral) = 0.46 µg/bee; LD50 (contact) 0.025 µg/bee]. Benzenemethanol An organic alcohol that is used as a preservative. Benzenemethanol is toxic to aquatic and soil organisms [LC50 <i>Lepomis macrochirus</i> 10 mg/mL (96hrs); EC ₅₀ <i>Daphnia magna</i> 55 mg/L (24hrs); EC ₅₀ microbial 50 mg/L] and is a potential terrestrial vertebrate toxin based on laboratory animal toxicity data [LD ₅₀ (oral, rabbit) 1050 mg/kg].

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal information :	Preferably dispose of product by use in accordance with label directions. Otherwise dispose of product at an approved landfill, or other approved facility in accordance with local, regional and national regulations. Avoid contamination of any water supply with product.
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SECTION 14: TRANSPORT INFORMATION

Relevant information:	Dangerous Goods for transport. ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Moxidectin) UN Number: 3082 Dangerous Goods Class: 9 The maximum quantity per package of this substance allowed for carriage on public transport is 1 L.
Other requirements:	N/A

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SECTION 15: REGULATORY INFORMATION

Regulatory status:

Registered pursuant to the ACVM Act 1997, No. A010759
See www.foodsafety.govt.nz for registration conditions
SDS is required for quantities greater than or equal to 1 L

Approved pursuant to the HSNO Act, Approval Code HSR001873
See www.epa.govt.nz for approval conditions

HSNO and ACVM controls:

Refer to Section 3

List exposure limits:

None set

SECTION 16: OTHER INFORMATION

Additional information:

For product information visit the Boehringer Ingelheim website
www.boehringer-ingelheim.co.nz

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