SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND SUPPLIER

Product name:	**Trimox Hi-Mineral**
Product code:	A010493
Recommended use:	Oral drench for the control and treatment of internal and external parasites 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 preparation:	November 2011

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Liquid

Product components:

Name	CAS	Proportion
Moxidectin	113507-06-5	1 g/L
Levamisole HCl	16595-80-5	40 g/L
Albendazole	54965-21-8	23.8 g/L
Disodium cobalt EDTA	15137-09-4	14.8 g/L
Sodium selenate	13410-01-0	1.23 g/L
Other	-	To 1 L

SECTION 3: HAZARDS IDENTIFICATION

Hazard classifications:	6.1E, 6.5B, 6.6B, 6.8A, 6.8C, 6.9B, 9.1A, 9.3C, 9.4C
Priority and secondary identifiers:	Warning Dangerous to the environment
Risk and safety phrases:	6.1E May be harmful if swallowed. 6.5B Repeated exposure may cause skin allergy. 6.6B Levamisole HCl and Albendazole possibly may cause damage to genetic material. 6.8A Albendazole and Disodium cobalt EDTA possibly may affect development and/or reproduction. 6.8C Moxidectin possibly may have effects on or via lactation. 6.9B Levamisole HCl (blood and haematopoietic system), Albendazole, Disodium cobalt EDTA (cardiovascular system), possibly may cause organ damage from repeated oral exposure at high doses. 9.1A Very toxic to aquatic organisms. 9.3C Harmful to terrestrial vertebrates. 9.4C Harmful to terrestrial invertebrates.

SECTION 4: FIRST AID MEASURES

Necessary first aid measures:	For advice, contact the National Poisons Centre on 0800 POISON (0800 764 766), or a doctor immediately. INGESTION: If swallowed, seek immediate medical attention. Do NOT induce vomiting. EYES: If splashed in eyes, wash out immediately with water. SKIN: If skin or hair contact occurs, remove contaminated

	clothing and flush skin and hair with running water. INHALATION: Remove to fresh air.
Workplace facilities:	No special facilities 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. Launder protective clothing separately from other clothing, and before each reuse.
Notes for medical personnel:	Apply symptomatic therapy (no specific antidote). Note the nature of the product.

SECTION 5: FIRE FIGHTING MEASURES

Type of hazard:	Non flammable, Non combustible, Non explosive
Fire hazard properties:	Trimox Hi Min is not classified as flammable, and will not support combustion. Hazardous fumes when heated to decomposition.
Regulatory requirements:	Not applicable
Extinguishing media and methods:	Treat the fire as for the other materials present. Do not allow water to enter drains.
Hazchem code:	2X
Recommended protective clothing:	When fighting a major fire wear full protective clothing including breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Emergency procedures:	Wear suitable protective clothing. Restrict access to contaminated area. Contain the spill and prevent further dispersion. Retrieve intact containers from site. Place damaged containers into containment devices. Absorb spills with inert material and place in waste containers. Wash the area with water and absorb with further inert material. Collect spilled material and place in sealable containers for subsequent disposal. Prevent contamination of water courses or sewers. Dispose of waste safely.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:	Apply with well-maintained and calibrated equipment. Handle with care.
Regulatory requirements:	N/A
Handling practices:	N/A
Approved handlers:	Not required
Conditions for safe storage:	Store below 25 °C. Protect from light. Keep out of reach of children.
Store site requirements:	This substance is subject to a requirement for an emergency management plan, secondary containment and signage, whenever it is held in quantities of 100 L or more. See Hazardous Substances (Emergency management) regulations 25 to 42.
Packaging:	Packaging Schedule 3 (UN Packing Group III) for quantities >5 L (Hazardous Substances Packaging Regulations 2001).

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Workplace exposure standards:	Propane-1,2 diol: vapour & particulates 150 ppm/474 mg/m^3, particulates only 10 mg/m^3 ; BHT: 10 mg/m^3

Application in the workplace:	Prevent exposure by using engineering controls, personal protective equipment and work practices that prevent skin contact.
Exposure standards outside the workplace:	None at this time
Engineering controls:	Ensure that ventilation maintains levels below WES
Personal protection:	Clothing should consist of overalls with long sleeves and impervious gloves.
References:	N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specify product data:	Formulation type	Suspension
	Appearance	Light pink to Pink Liquid
	Specific gravity	0.99-1.11 g/mL
	pH	~4-6
	Boiling Point	ca. 100 °C
	Vapour Pressure	N/A
	Solubility in Water	Partial
Required specifications:	N/A	
Further specifications:	N/A	
Specific advice:	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:	No specific materials to avoid.
Hazardous decomposition products:	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:

Trimox Hi Mineral
May be harmful if swallowed. Repeated exposure may cause skin allergy. Levamisole HCl and Albendazole possibly may cause damage to genetic material. Albendazole and Disodium cobalt EDTA possibly may affect development and/or reproduction. Moxidectin possibly may have effects on or via lactation. Levamisole HCl (blood and haematopoietic system), Albendazole, Disodium cobalt EDTA (cardiovascular system), possibly may cause organ damage from repeated oral exposure at high doses.

Summaries data:

INGREDIENTS

Moxidectin
Moxidectin is an acute oral toxin [LD50 (oral, mouse) 42 mg/kg]. It can cause mild and transitory skin and eye irritation. Human health effects are considered unlikely if the product is used according to label, high dose exposure may cause central nervous system effects. Clinical signs in repeated high dose laboratory animal studies included lacrimation, salivation, slight ataxia, tremor, languid appearance (NOAEL 0.3 mg/kg bw/day). The critical adverse effects in multigenerational high dose reproductive studies were mortality and reduced weight gain of pups in early lactation.

Levamisole HCL
Levamisole is a broad-spectrum anthelmintic with a long history of use in cattle and sheep. It has moderate to high acute toxicity

[LD50 (oral, rats & mice) = 200-500 mg/kg]. A potential mutagen [levamisole] induced chromosome gaps and breaks in human lymphocytes in vitro and in vivo and levamisole hydrochloride induced an increase in the mitotic index, numerical chromosomal changes (aneuploidy, polyploidy) and structural chromosomal changes. Haemolytic anaemic was the main toxic effect demonstrated in repeated dose animal studies (LOAEL 1.25 mg/kg/day). In humans, levamisole has been associated with various non-specific effects (nausea, vomiting, rashes). Levamisole has induced leucopenia and agranulocytosis (idiosyncratic) at low doses.

Albendazole
Benzimidazoles prevent tubulin polymerisation or spindle movement and their administration can result in aneuploidy. They are weak mutagens. Albendazole has low to moderate acute oral toxicity [LD50 (oral, rabbit) 500-1250 mg/kg; LD50 (oral, rat) 1320-2400 mg/kg; LD50 (oral, mice) >3000 mg/kg]. Identified as a potential skin sensitiser by a positive result in a guinea pig maximisation test. In repeated oral dose studies toxic effects included reduced weight gain, reduced erythrocyte and leucocyte counts, decreased testes and uterine weights, slight increases in relative liver and kidney weights, and sternal bone marrow hypocellularity (lowest NOAEL 5 mg/kg/day). Teratogenicity (visceral, craniofacial and bone defects) has been demonstrated in animal studies (lowest NOEL was 5 mg/kg/day).

Disodium cobalt EDTA
Cobalt and cobalt compounds are possible carcinogens. In repeated does studies, cobalt salts have been implicated in cardiac disease (oral doses, LOAEL 0.02 mg/kg/d) and cobalt metal dust caused pulomonary toxicity when inhaled (LOAEL 0.02 mg/L/d). Cobalt is a known skin and respiratory sensitiser. Cobalt metal fume and dust irritates the respiratory tract. Cobalt metal is irritant to eyes and skin. In a reproductive study in rats, cobalt was embryotoxic when fed at 0.05 mg/kg/d throughout the gestation (decreased foetal weight).

SECTION 12: ENVIRONMENTAL INFORMATION

Potential environmental interactions:

Very toxic to aquatic organisms. Harmful 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. Aquatic organisms: Moxidectin is highly toxic to fish and extremely toxic to aquatic invertebrates [LC50 Rainbow trout is 0.16 ppb (96hrs); EC50 Daphnia magna 30 ppt (48hrs)]. Possibly bioaccumulative. Soil organisms: Dung beetle. Moxidectin is toxic to mammals [LD50 (oral, mouse) 42 mg/kg], highly toxic to bees [LD50 (oral) 0.46 µg/bee; LD50 (contact) 0.025 µg/bee].

Levamisole HCl
Levamisole is potentially toxic to terrestrial vertebrates based on laboratory animal toxicity data [LD50 (oral, rats & mice) = 200-500 mg/kg]. Not toxic to fish or honey bees. Levamisole does not bioaccumulate in biological systems. In soil, levamisole has a half-life of five to seventy five days depending on sunlight, soil type and climatic conditions. Levamisole binds strongly to soil particles and organic matter. It does not leach in soils and is readily degraded by hydrolysis and microbial action.

	Albendazole Albendazole may be toxic to terrestrial vertebrates based on LD50 data [LD50 (oral, rabbit) 500-1250 mg/kg]. Not toxic to fish or honey bees. The potential for bioaccumulation is low and benzimidazoles are degraded in soil and probably also in water. Disodium cobalt EDTA Cobalt is toxic to fish and other aquatic life [LC50 (96hr, Trout) 1.406 mg/L; EC50 (48hr, *Daphnia magna*) 1.11 mg/L]. Not readily biodegradable, cobalt persists.
Environmental risk and safety phrases:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Moxidectin)

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 source. Triple rinse container immediately after emptying and pour rinsate onto waste ground. Recycle via AGRECOVERY Rural Recycling Programme (see www.agrecovery.co.nz). Do NOT use container for any other purpose

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

SECTION 15: REGULATORY INFORMATION

Regulatory status:	Registered pursuant to the ACVM Act 1997, No. A010493 See www.foodsafety.govt.nz for registration conditions Approved pursuant to the HSNO Act, Approval Code HSR100135 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 While the information set forth is believed to be accurate as of the date hereof, BOEHRINGER INGELHEIM makes no warranty with respect hereto and disclaims all liability from reliance thereon.