SAFETY DATA SHEET

Section 1: Identification

Product identifier **Moxidectin 1%**

Other means of identification

Synonyms CYDECTIN * CYDECTIN Injection

Recommended use of the chemical and restrictions on use

Recommended use Veterinary product used as anti-worm agent (anthelmintic).

Restrictions on use Not for human use.

Details of manufacturer or importer

Company Name (NZ) Zoetis New Zealand Limited
Level 4, 8 Mahuhu Crescent
Auckland Central
Auckland 1010, New Zealand

Telephone No. 0800 963 847 (Business Hours)

Emergency No. (National Poisons Centre) 0800 POISON (0800 764 766)

Emergency No. (Emergency Services) In an emergency dial 111

Section 2: Hazard identification

Classification of the hazardous chemical

Physical hazards	Not classified.	
Health hazards	Not classified.	
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1

Label elements, including precautionary statements

Hazard symbol(s)

Environment

Signal word Warning

Hazard statement(s) Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

Prevention Avoid release to the environment.

Response Collect spillage.

Storage Store away from incompatible materials.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in classification None.

Supplemental information In the event of accidental injection, an allergic reaction may occur.

Section 3: Composition/information on ingredients

Mixture

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
Benzyl alcohol	100-51-6	1 - 5
Moxidectin Moxidectin Technical Material (MTM)	113507-06-5	1

Composition comments Other components below reportable levels

Section 4: First-aid measures

Description of necessary first aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists. In the event of accidental self injection or needle stick injury, wash the injury thoroughly with clean running water. Get medical attention immediately.
Eye contact	Remove contact lenses, if present and easy to do. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Ingestion	Rinse mouth. Call a physician or poison control centre immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconsious person.
Personal protection for first-aid responders	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. IF exposed or concerned: Get medical advice/attention. You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.
Symptoms caused by exposure	Direct contact with eyes may cause temporary irritation. Adverse effects associated with therapeutic use include clumsy motion of limbs/trunk (ataxia), drowsiness, depression, salivation. In the event of accidental injection, an allergic reaction may occur.
Medical attention and special treatment	Treat symptomatically.

Section 5: Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Alcohol resistant foam. Powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for fire fighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Hazchem code	•3Z
Hazards from combustion products	None.
General fire hazards	No unusual fire or explosion hazards noted.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Keep unnecessary personnel away.
For emergency responders	Keep unnecessary personnel away. Ensure adequate ventilation. Avoid breathing mist/vapours. Avoid contact with eyes, skin, and clothing. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Clean surface thoroughly to remove residual contamination. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Section 7: Handling and storage

Precautions for safe handling	Avoid breathing mist/vapours. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. Avoid accidental injection.

Conditions for safe storage, including any incompatibilities Store as directed by product packaging. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

Section 8: Exposure controls/personal protection

Control parameters Follow standard monitoring procedures.

Occupational exposure limits

Zoetis

Components	Type	Value
Moxidectin (CAS 113507-06-5)	TWA	70 µg/m3

Biological limit values No biological exposure limits noted for the ingredient(s).

Control banding approach Not available.

Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, for example personal protective equipment (PPE)

Eye/face protection If contact is likely, safety glasses with side shields are recommended.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Impervious gloves are recommended if skin contact with drug product is possible and for bulk processing operations.

Other Wear suitable protective clothing. Use protective clothing (uniforms, lab coats, disposable coveralls, etc.) in both production and laboratory areas.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment. Respiratory protection should be provided in instances where exposure to dust, mists, aerosols or vapors are likely. If the applicable Occupational Exposure Limit (OEL) is exceeded, wear an appropriate respirator with a protection factor sufficient to control exposures to below the OEL.

Thermal hazards Not applicable.

Hygiene measures Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Section 9: Physical and chemical properties

Appearance Liquid preparation

Physical state Liquid.

Form Liquid.

Colour Not available.

Odour Not available.

Odour threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not available.

Explosive limit – upper (%) Not available.

Vapour pressure Not available.

Vapour density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Soluble

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Kinematic viscosity Not available.

Other physical and chemical parameters

Explosive properties Not explosive.

Oxidising properties Not oxidising.

Section 10: Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

Conditions to avoid Contact with incompatible materials.

Incompatible materials Strong oxidising agents.

Hazardous decomposition products Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition.

Section 11: Toxicological information

Information on likely routes of exposure

Inhalation Prolonged inhalation may be harmful.

Skin contact No adverse effects due to skin contact are expected. In the event of accidental injection, an allergic reaction may occur.

Benzyl alcohol	Species: Guinea Pig Severity: Moderate
Moxidectin	Species: Rabbit Severity: Mild
Benzyl alcohol	Species: Rabbit Severity: Minimal

Eye contact Direct contact with eyes may cause temporary irritation.

Moxidectin	Species: Rabbit Severity: Moderate
Benzyl alcohol	Species: Rabbit Severity: Severe

Ingestion May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Expected to be a low hazard for usual industrial or commercial handling by trained personnel.

Components	Species	Test Results
Benzyl alcohol (CAS 100-51-6)		
Acute		
Dermal		
LD50	Rabbit	2000 mg/kg
Inhalation		
LC50	Rat	1000 mg/l, 8 Hours
Oral		
LD50	Mouse	1580 mg/kg
	Rat	1230 mg/kg
Moxidectin (CAS 113507-06-5)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg
Oral		
LD50	Rat	106 mg/kg

Components	Species	Test Results
Chronic		
Oral		
NOEL	Mouse	30 mg/kg/day, 2 years (Not carcinogenic)
	Rat	100 mg/kg/day, 2 years (Not carcinogenic)
Subacute		
Oral		
LOEL	Rat	100 mg/kg/day, 28 days (Central Nervous System)
NOEL	Mouse	75 mg/kg/day, 28 days (Central nervous system)
Subchronic		
Oral		
NOEL	Dog	10 mg/kg/day, 90 days (Central Nervous System)
	Rat	50 mg/kg/day, 13 weeks (Central Nervous System)

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Corrosivity

Moxidectin
Species: Rabbit
Severity: Mild

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Eye contact

Moxidectin
Species: Rabbit
Severity: Moderate

Benzyl alcohol
Species: Rabbit
Severity: Severe

Respiratory irritation Not available.

Respiratory or skin sensitisation

Respiratory sensitisation Not a respiratory sensitiser.

Skin sensitisation This product is not expected to cause skin sensitisation.

Skin Sensitisation

Benzyl alcohol
Result: Sensitiser

Moxidectin
Species: Guinea Pig
Severity: Negative

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Mutagenicity

Moxidectin

In Vitro Bacterial Mutagenicity (Ames)
Result: Negative
Species: Salmonella , E. coli

In Vitro HGPRT Forward Gene Mutation Assay
Result: Negative
Species: Chinese Hamster Ovary (CHO) cells

In Vivo Cytogenetics
Result: Negative
Species: Rat Bone Marrow

In Vivo Unscheduled DNA Synthesis
Result: Negative
Species: Rat Hepatocyte

Carcinogenicity Due to partial or complete lack of data the classification is not possible.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Developmental effects

Moxidectin	1 mg/kg/day Embryo / Fetal Development, (Maternal toxicity, Not teratogenic) Result: NOEL Species: Rabbit Organ: Oral route 5 mg/kg/day Embryo / Fetal Development, (Negative) Result: NOEL Species: Rat Organ: Oral route 5 mg/kg/day Embryo / Fetal Development, (Not Teratogenic, Embryotoxicity, Maternal Toxicity) Result: NOEL Species: Rat Organ: Oral route

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Narcotic effects Due to lack of data the classification is not possible.

Chronic effects Prolonged inhalation may be harmful.

Further information In the event of accidental injection, an allergic reaction may occur. May cause allergic respiratory and skin reactions.

Section 12: Ecological information

Ecotoxicity Avoid release to the environment. Very toxic to aquatic life with long lasting effects.

Components		Species	Test Results
Benzyl alcohol (CAS 100-51-6)			
Aquatic			
Algae	EC50	Pseudokirchneriella subcapitata (Green Alga)	500 mg/l, 72 Hours
Crustacea	EC50	Daphnia magna (Water Flea)	230 mg/l, 48 Hours
			66 mg/l, 21 day(s) Toxicity for reproduction
Fish	LC50	Pimephales promelas (Fathead Minnow)	460 mg/l, 96 Hours
Acute			
Fish	LC50	Bluegill (Lepomis macrochirus)	10 mg/l, 96 hours
Moxidectin (CAS 113507-06-5)			
Aquatic			
Algae	ErC50	Green algae (Selenastrum capricornutum)	> 87 ppb, 72 Hours
Crustacea	EC50	Daphnia magna (Water Flea)	30 ppt, 48 Hours
Fish	LC50	Lepomis macrochirus (Bluegill Sunfish)	0.62 ppb, 96 Hours
		Oncorhynchus mykiss (rainbow trout)	0.16 ppb, 96 Hours

Persistence and degradability No data is available on the degradability of this product. The following information is available for the individual ingredients.

Biodegradability

Percent Degradation (Aerobic Biodegradation)

Benzyl alcohol	92 - 96 % Test Duration: 28 days
Moxidectin	Soil DT50, ca. 2 months @ 25°C / 77°F

Bioaccumulative potential No data available for this product. The following information is available for the individual ingredients.

Partition coefficient n-octanol / water (log Kow)	
Benzyl alcohol	1.1
Moxidectin	4.77, @ 25°C / 77°F

Mobility in soil No data available for this product. The following information is available for the individual ingredients.

Adsorption

Soil/Sediment Sorption - Log Koc

Moxidectin	4.3 - 4.6

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Section 13: Disposal considerations

Disposal methods Avoid release to the environment. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater.

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Special precautions to be taken during disposal Dispose in accordance with all applicable regulations.

Method of disposal that should not be used None known.

Section 14: Transport information

IATA

UN number	UN3082
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Moxidectin)
Transport hazard class(es)	
Class	9
Subsidiary hazard	-
Packing group	III
Environmental hazards	No.
ERG Code	9L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Moxidectin), MARINE POLLUTANT
Transport hazard class(es)	
Class	9
Subsidiary hazard	-
Packing group	III
Environmental hazards	
Marine pollutant	Yes
EmS	F-A, S-F
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

IATA; IMDG

Marine pollutant

General information

As of January 1, 2015, materials offered for transport that are classified for transportation only as Marine Pollutants and which are packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 Liters or less for liquids or having a net mass per single or inner packaging of 5 kilograms or less for solids are NOT subject to ICAO/IATA, IMDG, or ADR transport regulations provided the general packaging requirements of those regulations are met. Refer to ICAO/IATA A197, IMDG 2.10.2.7, ADR SP 375. Please refer to the applicable dangerous goods regulations for additional information. Transport according to the requirements of the appropriate regulatory body.

Section 15: Regulatory information

Applicable regulations

Registered pursuant to the ACVM Act 1997, No. A005979.
See www.foodsafety.govt.nz for registration conditions.
Approved pursuant to the HSNO Act 1996, No. HSR100758.
See www.epa.govt.nz for approval controls.

New Zealand Inventory of Chemicals (NZIoC): Registration status

Benzyl alcohol (CAS 100-51-6)	HSNO Approved
Moxidectin (CAS 113507-06-5)	HSNO Approved

Section 16: Other information

Issue date 11-March-2024

Version No. 01

Key abbreviations or acronyms used Not available.

Disclaimer

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Revision information

Product and Company Identification: Synonyms
Composition / Information on Ingredients: Ingredients
Transport Information: Proper Shipping Name/Packing Group
GHS: Classification