SAFETY DATA SHEET

According to
HSNO Hazardous Substances (Safety Data Sheets) Notice 2017

Trade Name: Feratox
Product No: RC101, RC102, RC103

Document Number: SDS01/01FTX
Version Number: 2020.9.10

Section 1. Identification of the material and the supplier

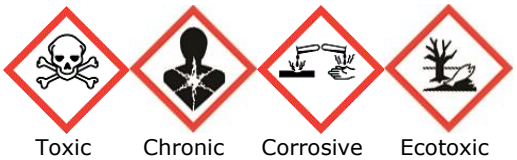
Product:	**Feratox 475g/kg** **Feratox for control of possums and Dama Wallaby**
Product Use:	Vertebrate Toxic Agent for use in bait stations or bait devices as per label instructions
Restriction of Use:	Refer to Section 15
New Zealand Supplier:	**Connovation Limited**
Address:	36 B Sir William Drive East Tamaki, Auckland PO Box 58613 Botany, Auckland, 2163
Telephone:	+64 9 273 4333
Fax:	+64 9 374 4334
Emergency No:	**0800 764 766 (National Poison Centre)**
Date of SDS Preparation:	10 July 2020

Section 2. Hazards Identification

This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2017

EPA Approval No: HSR001673

Pictograms



Toxic Chronic Corrosive Ecotoxic

Signal Word: **DANGER**

HSNO Classification	Hazard Code	Hazard Statement	GHS Category
6.1B (oral)	H300	Fatal if swallowed.	Acute Tox. 2
6.3B	H316	Causes mild skin irritation.	Skin Irrit. 3
6.5B	H317	May cause an allergic skin reaction.	Skin Sens. 1
6.8B	H361	Suspected of damaging fertility or the unborn child.	Repr. 2

6.9A	H370	Causes damage to organs.	STOT SE 1
8.3A	H318	Causes serious eye damage.	Eye Corr. 1
9.1A	H400	Very toxic to aquatic life.	Aquatic Acute 1/Aquatic Chronic 1
9.2A	H421	Very toxic to the soil environment.	-
9.3A	H431	Very toxic to terrestrial vertebrates.	-

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fumes/ vapours.
P264	Wash hands and exposed skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves, protective clothing and eye protection.
P281	Use personal protective equipment as required.

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P310	Immediately call a POISON CENTER or doctor/physician.
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

Storage Code	Storage Statement
P405	Store in tightly closed original container and secure (locked up) in a cool dry place out of reach of children and pets and away from any food, drink and animal foodstuffs.

Disposal Code	Disposal Statement
P501	Dispose of according to Local Regulations or Authorities

Section 3. Composition / Information on Hazardous Ingredients

Ingredients	Wt%	CAS NUMBER.
Potassium Cyanide	47.5	151-50-8
Other ingredients (including filler, encapsulating compounds, coating, colourant)	> 52.5	Proprietary

Section 4. First Aid Measures

If exposed or concerned or if medical advice is needed, have product container or label at hand. Consult the National Poisons Centre, 0800 764 766 [0800 POISON] or a doctor.

Symptoms of Cyanide Poisoning:
Dizziness, rapid breathing, headache, drowsiness, rapid pulse, unconsciousness, and convulsions.

Routes of Exposure:

If in Eyes	Flood eye gently with clean fresh running water. Continue rinsing for at least 15 minutes. Take care not to rinse contaminated water into a non-affected eye. Remove contact lenses, if present and easy to do after first 5 minutes then continue rinsing. Use antihistamine eye drops. Obtain medical advice if irritation occurs.
If on Skin	Remove any contaminated clothing. Wash affected area thoroughly with running water for 20 minutes to ensure all product is removed. Launder decontaminated clothing immediately (and separate to household laundry) before re-use or discard safely.
If Swallowed	Obtain immediate medical attention if ingested. Call 111 FOR AMBULANCE AND USE KEYWORDS 'Cyanide Poisoning'. Use emergency blanket to protect patient from heat loss. A doctor can slowly administer 50 ml 25% sodium thiosulphate intravenously if indicated (patient unconscious or incoherent, breathing irregular, possibly vomiting and/or with convulsions). If person is losing consciousness after ingestion, or is unconscious or convulsing, then do NOT give anything by mouth. Rinse mouth thoroughly with water. Do NOT give anything to drink. Do NOT induce vomiting. If vomiting occurs naturally, rinse mouth thoroughly again with water. If patient is conscious, breathing regularly and able to say what has happened, keep under observation. Get medical assistance. Do NOT use mouth to mouth or mouth to nose resuscitation, but instead use a suitable device or apparatus to give artificial respiration if breathing has stopped. Administer oxygen if breathing is shallow or irregular and cardiopulmonary resuscitation (CPR) if heart has stopped.
If Inhaled	If person has inhaled cyanide, and same hazard exists, then ensure precautions taken to avoid exposure to yourself. Refer to advice given for if swallowed. Rinse mouth thoroughly with water. Do NOT give anything to drink. Do NOT induce vomiting. If vomiting occurs naturally, rinse mouth thoroughly again with water. If patient is conscious, breathing regularly and able to say what has happened, keep under observation. Get medical assistance. Do NOT use mouth to mouth or mouth to nose resuscitation, but instead use a suitable device or apparatus to give artificial respiration if breathing has stopped. Administer oxygen if breathing is shallow or irregular and cardiopulmonary resuscitation (CPR) if heart has stopped.

Most important symptoms and effects, both acute and delayed

Symptoms:	Refer to Section 11.
Swallowing:	Fatal if swallowed.
Skin:	Causes mild skin irritation. May cause an allergic skin reaction.
Eyes:	Causes serious eye damage.
Chronic:	Suspected of damaging fertility or the unborn child. Causes damage to organs.

First Aid facilities
Eye and hand washing.

Advice to doctor
Product contains cyanide.
If indicated, slowly inject 50 ml 25% sodium thiosulphate intravenously and administer oxygen.

Section 5. Fire Fighting Measures

Hazard Type	Non-Flammable
Hazards from products	Avoid breathing smoke. Combustion products include hydrogen cyanide, carbon monoxide, carbon dioxide, nitrogen oxides and ammonia.
Suitable Extinguishing media	Water spray, or alkali power only. Do NOT use acidic foam or powder or CO2 extinguishers.
Precautions for firefighters and special protective clothing	Wear self-contained breathing apparatus and personal protection clothing (gas tight suit, helmet).
HAZCHEM CODE	2X

Section 6. Accidental Release Measures

Wear protective gear as detailed in Section 8. Evacuate all unnecessary personnel.

Do not allow to enter drains and water courses. In event of major spill, inform Fire Service via 111 and then local Health Protection Officer at the Public Health Unit or hospital.

Contain spill. sweep up and transfer to suitable labeled container for re-use if suitable (unbroken, dry) or for disposal. Dispose of as hazardous waste to an approved waste management company in accordance with local regulations.

Section 7. Handling and Storage

Precautions for Handling:

- Feratox® requires a Certified Handler/Controlled Substance License and records for tracking of product.
- Refer to Feratox® product label for use and application.
- During bait preparation, bait deployment, bait retrieval or opening sealed containers that hold Feratox®:
- Do not handle or consume food, drink or smoke. After handling and before meals, rest breaks, smoking and at the completion of work, remove protective clothing. Wash hands and any exposed skin thoroughly with soap and water, or wipes.
- Do not breathe dust/fumes/ vapours.
- Contaminated work clothing should not be allowed out of the workplace.
- Avoid release to the environment.
- Wear protective gloves, protective clothing and eye protection.
- Use personal protective equipment as required.

Precautions for Storage:

- Store in tightly closed original container and secure (locked up) in a cool dry place out of reach of children and pets and away from any food, drink and animal foodstuffs.
- Do not store with Class 1 (Explosives), 3 (Flammables), 5.1 (Oxidisers), 5.2 (Organic Peroxide Oxidizers), or 8 (Corrosive) products.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³
‡ Cyanides, as CN (skin) [151-50-8]	-	5	-	-

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2017 9TH EDITION.

Engineering Controls

None set

Personal Protective Equipment

Personal Protective Equipment (PPE)					Comments
Safety equipment	Non-porous gloves	Safety glasses	Multi-gas respirator kit 97000 series (half mask)	Trousers outside boots, or gaiters	
Bait Preparation					
Feratox® in Ferafeed paste	Recommended	Not required	Not required	Not required	Wearing gloves minimises risk of moisture transfer from hands to Feratox® pellet
Deployment in field					
Feratox® and Ferafeed paste	Recommended	Not required	Not required	Not required	
Feratox® and Ferafeed pellets	Recommended	Not required	Not required	Recommended	Wearing gloves minimises risk of moisture transfer from hands to Feratox® pellet
Bait retrieval: broken or possibly degrading Feratox® pellets					
Bury Feratox® pellets on site	Required	Not required	Required	Required	
Extraction of Feratox®from bait stations in an open environment with free air flow	Required	Recommended	Recommended	Required	In open spaces, any possible cyanide gas is dissipated by the air currents.
Extraction of Feratox®pellets from bait stations in a closed environment	Required	Recommended	Required	Required	In closed spaces such as storage sheds, any possible cyanide gas may not be dissipated by the air currents
Placement of Feratox® in sealed container (unsealed) in open	Required	Recommended	Recommended	Required	In open spaces, any possible build up of cyanide gas is dissipated by the air currents.

environment with free air flow					

Bait retrieval: Feratox® pellets intact					
Extraction of Feratox®from bait stations in an open environment with free air flow	Required	Recommended	Recommended	Required	In open spaces, any possible cyanide gas is dissipated by the air currents.
Extraction of Feratox®pellets from bait stations in a closed environment	Required	Recommended	Recommended	Required	In closed spaces such as storage sheds, any possible cyanide gas may not be dissipated by the air currents
Placement of Feratox® in sealed container (unsealed) in open environment with free air flow	Required	Recommended	Recommended	Required	In open spaces, any possible build up of cyanide gas is dissipated by the air currents.
Placement of Feratox® in a container (sealed)	Required	Recommended	Required	Required	The danger to minimise is the build up of cyanide gas in a sealed container which may be released on opening.
Bury Feratox® pellets on site	Required	Not required	Recommended	Recommended	
Opening Sealed Container that contains retrieved baits					
Opening sealed container that contains retrieved baits	Required	Recommended	Required	Not required	Always open any sealed container in a well ventilated area. DO NOT breathe any fumes that may have accumulated in sealed container.
Placement of Feratox® in a container (sealed)	Required	Recommended	Required	Required	The danger to minimise is the build up of cyanide gas in a sealed container which may be released on opening.

Section 9 Physical and Chemical Properties

Appearance	Hard green round pellet, ~ 7mm diameter
Odour	Non specific
Odour Threshold	Not available
pH	Not available
Boiling Point	Not available
Melting Point	Not available
Freezing Point	Not available
Flash Point	Not available
Flammability	Non Flammable
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Vapour Density	Not available
Specific Gravity	Not available
Water Solubility	Not available
Partition Coefficient:	Not available
Auto-ignition	Not available

Temperature	
Decomposition Temperature	Not available
Kinematic Viscosity	Not available
Particle Characteristics	Not available

Section 10. Stability and Reactivity

Stability of Substance	Stable under normal storage and use conditions.
Possibility of hazardous reactions	Not available
Conditions to Avoid	Keep dry. Avoid contact with moisture, water, acidic conditions
Incompatible Materials	Acids, acid salts, strong oxidising compounds, carbon dioxide, water, Sodium Nitrite, Zinc Phosphide
Hazardous Decomposition Products	Hydrogen cyanide, ammonia, potassium hydroxide.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Can be fatal if swallowed when pellets damaged/broken or cracked in the mouth. Pellets swallowed whole may pass through digestive system unbroken. Symptoms of poisoning include difficulty breathing (dyspnea), rapid breathing (tachypnea), nausea, dizziness, vomiting, headache, sweating and convulsions.
Dermal	Not applicable.
Inhalation	Not an expected exposure route unless pellets is broken, or decomposing with risk of release of hydrogen cyanide gas. For symptoms of exposure, refer to Ingestion.
Eye	Causes eye damage. If pellets broken and core exposed symptoms could include stinging, burning, extreme redness, tearing and dizziness. Flushing eye promptly with water is required to avoid ill-effects.
Skin	May cause mild irritation. Unbroken, dry pellets are safe to handle. Broken or decomposing pellets if contacting skin may sting especially if skin has cuts or abrasions. If the potassium cyanide pellet core contacts skin, then burns/ulceration might result so it is important to immediately wash any contaminated skin.

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	Suspected of damaging fertility or the unborn child.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	Exposure by oral route can damage organs/systems; affects ability of cells to transfer oxygen.
STOT/RE	Not applicable.

Other Health Effects Information

The potassium cyanide active ingredient is encapsulated in a hard inert coating so provide protection from incidental contact. Ill-effects require the pellet to be broken or decomposing. Exposure to moisture/water will cause decomposition. This is accelerated under acidic conditions.

Individual component information:
Acute Toxicity:

Chemical Name	Oral – LD50	Dermal – LD50	Inhalation – LC50
Potassium cyanide	5 mg/kg (rabbit)	13.3 – 33.3 mg/kg (rabbit)	0.015 mg/L/4hr (rat)

Section 12. Ecotoxicological Information

HSNO Classes: 9.1A = Very toxic to aquatic life.
9.2A = Very toxic to the soil environment.
9.3A = Very toxic to terrestrial vertebrates.

Ecotoxicity
Product is a Vertebrate Toxic Agent (VTA) so there is potential for harm to non-target terrestrial vertebrates. Avoid exposure to non-target species including domestic pets. If poisoning is suspected of domestic animals or livestock, consult a veterinarian immediately. Advice to Veterinarians Product is a Vertebrate Toxic Agent (VTA) so there is potential for harm to non-target terrestrial vertebrates. Avoid exposure to non-target species including domestic pets. If poisoning is suspected of domestic animals or livestock, consult a veterinarian immediately.

Active Ingredient is Potassium cyanide
General
Symptoms are generalized and include frothing at the mouth, slobbering, increased respiratory rate, mouth breathing, rapid but weak heart rate, and muscle twitching. Mucous membranes are bright red, indicating the lack of oxygen transfer throughout the body that is necessary for survival at the cellular level. Death from respiratory paralysis occurs during severe convulsions. The heart continues to beat for several minutes after struggling ceases and breathing stops. Bright red blood often comes out of the nostrils and mouth.

Treatment
Administration of an IV solution of sodium thiosulfate, or sodium nitrite and sodium thiosulfate to "neutralise" the production of hydrocyanic acid may be appropriate. Note clinical signs of cyanide poisoning and nitrate poisoning are similar. Ensure nitrate poisoning is not cause first. Blood from nitrate poisoning will be chocolate brown compared to cherry red for cyanide poisoning.

Toxicity to aquatic organisms
The product has identified as being very toxic in the aquatic environment.

Toxicity to terrestrial vertebrates
The product has identified as being very toxic to terrestrial vertebrates. Product is registered as a Vertebrate Toxic Agent for possum and Dama wallaby control.

Toxicity to terrestrial invertebrates
The product has identified as being very toxic to terrestrial invertebrates.

Persistence/degradability
Pellets will breakdown within days of becoming wet. The potassium cyanide in the core of the pellet will react to liberate hydrogen cyanide gas which will dissipate into the atmosphere. Pellets will degrade more rapidly in contact with mist acidic conditions.

Mobility
Pellets will breakdown within hours of becoming wet. The potassium cyanide in the core of the pellet is soluble in water.

Threshold Effects Level
TEL water Cyanides as CN, 0.08 mg/L
TEL air Cyanides as CN, 0.009mg/m3

Environmental Exposure Standards

EEL freshwater	18 µg/L
EEL marine	14 µg/L

Section 13. Disposal Considerations

Disposal Method:
Dispose of product (pellets) and waste as hazardous materials by burying with organic matter on active tip face of managed landfill, or bury with biologically active layer of soil in landfill, in accordance with Regional Authority or local Council bylaws. Ensure to dispose of empty containers safely to an approved landfill. Do not use empty containers for storing other products.
Precautions or methods to avoid: Avoid unintended release to the environment.

Section 14 Transport Information

This product is classified as a Dangerous Good for transport in NZ; NZS 5433:2012

Road, Rail, Sea and Air Transport

UN No	2588
Class - Primary	6.1
Packing Group	II
Proper Shipping Name	PESTICIDE, TOXIC, SOLID, N.O.S (CONTAINS 47.5% POTASSIUM CYANIDE)
Marine Pollutant	Yes
Hazchem	2X
Special Provisions	If the product's individual container is below 500g, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information in accordance with Chapter 3.4 of the UNRTDG.

Section 15 Regulatory Information

This substance is classified hazardous according to the EPA Hazardous Substances (Classification) Notice 2017

EPA Approval Code: HSR001673

HSNO Classification: 6.1B(O), 6.3B, 6.5B, 6.8B, 6.9A (O), 8.3A, 9.1A (M), 9.2A, 9.3A, 9.4A

Refer to www.epa.govt.co.nz for full control document

HSW (HS) Regulations 2017 and EPA Notices	**Trigger Quantity**
Certified Handler	Yes – any quantity (6.1B)
Location Certificate	Yes – 250kg (6.1B)
Tracking Trigger Quantities	Yes – any quantity (6.1B)
Signage Trigger Quantities	250kg (6.1B)
Emergency Response Plan	100kg (6.1B)
Secondary Containment	100kg (6.1B)
Restriction of Use	
77A - The controls relating to Vertebrate Toxic Agents, set out in Schedule 3 of the Hazardous Substances (Vertebrate Toxic	Variation: The wording of the new controls given below may be different to that in the Hazardous Substances (Vertebrate Toxic Agents) Transfer Notice (New Zealand Gazette,

Agents) Transfer Notice 2004, (Supplement to the New Zealand Gazette, 29 October 2004, No. 141, page 3495, as amended by New Zealand Gazette, 28 April 2005, no. 73, page 1739 and New Zealand Gazette, 26 June 2006, no. 68, page 1593) shall apply.	Issue No. 141). This is because the controls in the transfer notice are written to apply to more than one substance at a time. For Feratox 475 g/kg, the wording has been simplified to apply solely to this substance. Nonetheless, this simplification has not changed the meaning or the requirements as set out in the Vertebrate Toxic Agents Transfer Notice. Clause 2 Packaging of substances for sale for vertebrate pest control (1) No person may pack this substance for sale for vertebrate pest control unless the package is marked with a unique identifier. (2) The unique identifier marked on the container must comply with regulation 35 and regulation 36 of the Hazardous Substance (Identification) Regulations 2001. (3) For the purposes of regulation 35(3)(c) of those regulations, the unique identifier is a secondary identifier. (4) In this clause package means the smallest package in which the substance is sold. Clause 3 Permissions required for application or use of certain substances (1) No person may apply or otherwise use this substance on land administered or managed by the Department of Conservation unless the person first obtains a permission from the Authority. (2) No person may apply or otherwise use this substance in a catchment area from which water is drawn for human consumption or in any other area where a risk to public health may be created if the substance is applied or used unless the person first obtains a permission from the Authority. Note: The Authority has delegated the giving of such a permission in the case of subclause (1) to the Department of Conservation (DOC), and, in the case of subclause (2) to the Ministry of Health. Persons wishing to apply this substance where a permission is required should contact the regional DOC office or the Ministry of Health. Clause 7 Lost, spilt, or unintended application of substance If this substance is applied other than in the intended application area, or is lost or spilt, the person who is in possession of the substance at the time that it was misapplied, lost, or spilt must report the nature and quantity of the substance within 24 hours of the substance being misapplied, lost, or spilt to— (a) if a permission was granted in accordance with clause 3 (above) to apply or otherwise use the substance, the person who granted the permission; and (b) the officer in charge of the nearest police station to which the person has access; and (c) the nearest Medical Officer of Health or the Medical Officer of Health in whose region the substance was misapplied, lost, or spilt; and (d) each owner or occupier of land on which the substance may have been misapplied, lost, or spilt; and (e) the person on whose behalf the substance is being applied.
Hazardous Property Controls Notice 2017	
HPC Notice Part 4 Clause 47	Equipment for class 9 substances must be appropriate
HPC Notice Part 4 Clause 48	Records of application of class 9 pesticides and plant growth regulators
HPC Notice Part 2	Certain substances restricted to workplaces only
HPC Notice Part 3	Hazardous substances in a place other than a workplace

HPC Notice Part 4 Subpart A	Site and storage controls for class 9 substances
HPC Notice Part 4 Subpart C	Qualifications required for application of class 9 pesticides
ACVM Act and Regulations	
See www.foodsafety.govt.nz for registration Conditions	**P004713**
Tolerable Exposure Level (TEL)	TEL water (Cyanides, as CN) = 0.08 mg/L TEL air (Cyanides, as CN) = 0.009 mg/m3
Environmental Exposure Level (EEL)	EEL freshwater = 18 mg/L EEL marine = 14 mg/L

Section 16 Other Information

Glossary

EC_{50}	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.
LC_{50}	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD_{50}	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

This document has been prepared by TCC (NZ) Ltd and serves as the suppliers Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to TCC (NZ) Ltd or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer. While TCC (NZ) have taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, TCC (NZ) Ltd accept no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS

The information herein is given in good faith, but no warranty, express or implied is made.

Please contact the New Zealand distributor, if further information is required.

Issue Date: 10 July 2020 Review Date: 10 July 2025