

## SAFETY DATA SHEET

### Section 1. Identification of the material and the supplier

Product: **PG MIX 12-14-24**  
 tem Code: PF712K  
 Product Use: Fertiliser  
 Restriction of Use: Refer to Section 15

New Zealand Supplier: Horticulture Ltd  
 Address: 10 Firth Street  
 Drury, 2113

Telephone: +64 9 294 8453  
 Fax Number: +64 9 294 7272

**Emergency Telephone: 0800 764 766 (National Poison Centre)**

Date of SDS Preparation: 1 April 2019

### Section 2. Hazards Identification

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

**EPA Approval No: Fertilisers (subsidiary) – HSR002571**

#### Pictograms



Irritant



Chronic



Ecotoxic

Signal Word: **Warning**

HSNO Classification	Hazard Code	Hazard Statement	GHS Category
6.1E (oral)	H303	May be harmful if swallowed.	Acute Tox. 5
6.3A	H315	Causes skin irritation.	Skin Irrit. 2
6.4A	H319	Causes serious eye irritation.	Eye Irrit. 2A
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
9.1B	H411	Toxic to aquatic life with long lasting effects.	Aquatic Chronic 2
9.3C	H433	Harmful 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.
P261	Avoid breathing dust.
P264	Wash hands thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P281	Use personal protective equipment as required.
P280	Wear protective clothing as detailed in Section 8.

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P362	Take off contaminated clothing and wash before re-use.
P391	Collect spillage.
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.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Storage Code	Storage Statement
P405	Store locked up.

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

### Section 3. Composition / Information on Ingredients

Ingredients	Wt%	CAS NUMBER.
Potassium nitrate	>= 50 - < 65	7757-79-1
Ammonium Dihydrogenorthophosphate	>= 20 - < 25	7722-76-1
Ammonium Sulphate	>= 12.5 - < 15	7783-20-2
Copper Sulphate Pentahydrate	>= 0.3 - < 1	7758-99-8
Boric Acid	>= 0.1 - < 0.2	10043-35-3

### Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists call doctor/physician.
If on Skin	Take off contaminated clothing and wash before re-use. Wash skin with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
If Swallowed	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Never give anything to the mouth of an unconscious person. If vomiting occurs, place victim face downwards, with the head turned to the side and lower than the hips to prevent vomit entering the lungs. Call a POISON CENTER or doctor/physician if you feel unwell.
If Inhaled	Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position

and keep warm. Keep at rest until fully recovered. Get medical advice if breathing becomes difficult.

**Most important symptoms and effects, both acute and delayed**

Symptoms:

**Ingestion:** May be harmful if swallowed. Adverse symptoms may include the following: stomach pains, reduced fetal weight, increase in fetal deaths, skeletal malformations.

**Inhalation:** Adverse symptoms may include the following: reduced fetal weight, increase in fetal deaths, skeletal malformations.

**Skin:** Causes skin irritation. May cause an allergic skin reaction. Adverse symptoms may include the following: irritation, redness, reduced fetal weight, increase in fetal deaths, skeletal malformations.

**Eyes:** Causes severe eye irritation. Pain or irritation, watering, redness.

**Chronic:** Suspected of damaging fertility or the unborn child.

**Treatment:** Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Protection of first-aiders:** No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**Section 5. Fire Fighting Measures**

<b>Hazard Type</b>	Non Flammable, Non-combustible material.
<b>Hazards from decomposition products</b>	Decomposition products may include the following materials: ammonia nitrogen oxides sulfur oxides phosphorus oxides metal oxide/oxides Avoid breathing dusts, vapors or fumes from burning materials. In case of inhalation of decomposition products in a fire, symptoms may be delayed.
<b>Suitable Extinguishing media</b>	Use flooding quantities of water for extinction. Do NOT use chemical extinguisher or foam or attempt to smother the fire with steam or sand.
<b>Precautions for firefighters and special protective clothing</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
<b>HAZCHEM CODE</b>	<b>22</b>

**Section 6. Accidental Release Measures**

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8). If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

### **SMALL SPILLS**

Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container.

### **LARGE SPILLS**

Move containers from spill area. Approach release from upwind. Vacuum or sweep up material and place in a designated, labeled waste container. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of according to Local Regulations.

## **Section 7. Handling and Storage**

### **Precautions for Handling:**

- Read label before use.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- As a precaution, keep exposure as low as possible for pregnant women, children and workers in reproductive age.
- Avoid breathing dust.
- Do not get in eyes or on skin or clothing.
- Do not ingest.
- Wash hands thoroughly after handling.
- Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.
- Remove contaminated clothing and protective equipment before entering eating areas.
- Persons with a history of skin sensitization problems should not be employed in any process in which this product is used.
- Contaminated work clothing should not be allowed out of the workplace.
- Avoid release to the environment.
- Use personal protective equipment as required.
- Wear protective clothing as detailed in Section 8.

### **Precautions for Storage:**

- Keep out of reach of children.
- Store locked up.
- Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink.
- Keep container tightly closed and sealed until ready for use.
- Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
- Do not store in unlabeled containers.
- Use appropriate containment to avoid environmental contamination.
- Keep away from: organic materials, oil and grease.
- Do not generate and inhale liquid fertilizer aerosols.
- In addition to overalls, gloves and eye protection, use of efficient respiratory protection (P2/P3 respirators with a tight face seal) during discharge of fertilizer bags and maintenance of equipment is recommended to minimize inhalation exposure and to ensure safe-use during this activity (see section 8).
- Risk assessments show safe use during normal spreading of fertilizers containing below 5% of boron by tractor (liquid or granular) and backpack (liquid).

## **Section 8 Exposure Controls / Personal Protection**

## WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA		STEL	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>

No ingredients have exposure limits

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

If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process acceptable levels.

### Personal Protection Equipment



<b>Eyes</b>	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Recommended: Tightly-fitting goggles
<b>Hands and Skin</b>	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
<b>Respiratory</b>	Use respiratory protection with more than 94% efficiency (P2, P3 or N95) and a tight face seal, when risk of exposure to dust.
<b>General</b>	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 9 Physical and Chemical Properties

<b>Appearance</b>	Solid
<b>Colour</b>	Not available
<b>Odour</b>	Not available
<b>Odour Threshold</b>	Not available
<b>pH</b>	Not available
<b>Boiling Point</b>	Not available
<b>Melting Point</b>	Not available
<b>Freezing Point</b>	Not available
<b>Flash Point</b>	Not available
<b>Flammability</b>	Not available
<b>Upper and Lower</b>	Not available

<b>Explosive Limits</b>	
<b>Vapour Pressure</b>	Not available
<b>Vapour Density</b>	Not available
<b>Specific Gravity</b>	Not available
<b>Solubilities</b>	Not available
<b>Partition Coefficient:</b>	Not available
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	Not available
<b>Kinematic Viscosity</b>	Not available
<b>Particle Size</b>	Not available

### Section 10. Stability and Reactivity

<b>Stability of Substance</b>	This product is stable under normal conditions of storage and use.
<b>Hazardous Reactions</b>	No known hazardous reactions.
<b>Conditions to Avoid</b>	Avoid contamination by any source including metals, dust and organic materials.
<b>Incompatible Materials</b>	alkalis combustible materials reducing materials organic materials Acids
<b>Hazardous Decomposition Products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### Section 11 Toxicological Information

#### Acute Effects:

<b>Swallowed</b>	May be harmful if swallowed. Adverse symptoms may include the following: stomach pains, reduced fetal weight, increase in fetal deaths, skeletal malformations.
<b>Dermal</b>	Not applicable.
<b>Inhalation</b>	Not triggered however adverse symptoms may include the following: reduced fetal weight, increase in fetal deaths, skeletal malformations.
<b>Eye</b>	Causes severe eye irritation. Pain or irritation, watering, redness.
<b>Skin</b>	Causes skin irritation. May cause an allergic skin reaction. Adverse symptoms may include the following: irritation, redness, reduced fetal weight, increase in fetal deaths, skeletal malformations.

#### Chronic Effects:

<b>Carcinogenicity</b>	Not applicable.
<b>Reproductive Toxicity</b>	Suspected of damaging fertility or the unborn child.
<b>Germ Cell Mutagenicity</b>	Not applicable.
<b>Aspiration</b>	Not applicable.
<b>STOT/SE</b>	Not applicable.
<b>STOT/RE</b>	Not applicable.

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	References
boric acid	LD50 Oral	Rat	3,450 mg/kg	Not applicable.	IUCLID 5

	LD50 Dermal	Rabbit	> 5,000 mg/kg	Not applicable.	IUCLID
copper sulphate pentahydrate					
	LD50 Oral	Rat	> 400 mg/kg OECD 401	Not applicable.	IUCLID
	LD50 Dermal	Rat	> 5,000 mg/kg	Not	IUCLID
OECD 402					
ammonium sulphate					
	LD50 Oral	Rat	4,250 mg/kg OECD 401	Not applicable.	IUCLID
	LD50 Dermal	Rat	> 5,000 mg/kg OECD 434	Not applicable.	IUCLID
ammonium dihydrogenorthophosphate					
	LD50 Oral	Rat	2,000 - 5,000 mg/kg OECD 425	Not applicable.	IUCLID
	LC50 Inhalation	Rat	> 5 mg/l OECD 403	4 h	IUCLID 5
	LD50 Dermal	Rat	> 5,000 mg/kg OECD 402	Not applicable.	IUCLID
Potassium nitrate					
	LD50 Oral	Rat	2,000 - 5,000 mg/kg	Not applicable.	IUCLID
	LD50 Dermal	Rat	> 5,000 mg/kg	Not applicable.	IUCLID

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation	References
copper sulphate pentahydrate	Skin - Erythema/Eschar OECD 404	Rabbit	0.22	4 h	72 h	IUCLID 5
	Skin - Edema OECD 404	Rabbit	0	4 h	72 h	IUCLID 5
	Eyes - Cornea opacity OECD 405	Rabbit	2.56		21 d	IUCLID 5
	Eyes - Iris lesion OECD 405	Rabbit	1		21 d	IUCLID 5
	Eyes - Redness of the conjunctivae OECD 405	Rabbit	2		21 d	IUCLID 5
	Eyes - Severe irritant	Rabbit	Not applicable.		Not applicable.	
Potassium nitrate	Skin - Non-irritating. OECD 404	Rabbit	0		72 h	IUCLID 5

#### Sensitization

Product/ingredient name	Route of exposure	Species	Result	References
copper sulphate pentahydrate	Skin	Guinea pig	Not sensitizing OECD 406	IUCLID 5

**Mutagenicity**

Product/ingredient name	Test	Experiment	Result	References
copper sulphate pentahydrate	OECD 471	Experiment: In vitro	Negative	IUCLID 5
	OECD 486	Experiment: In vivo	Negative	IUCLID 5

**Reproductive toxicity**

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure	References
boric acid	Not applicable.	Positive	Not applicable.	Rat	Oral	3 weeks Repeated dose	IUCLID 5
copper sulphate pentahydrate	Not applicable.	Not applicable.	Not applicable.	Rat	Oral: 1000 ppm OECD 416	Not applicable.	IUCLID 5
ammonium sulphate	Not applicable.	Negative	Negative	Rat	Oral: 1500 mg/kg bw/day OECD 422	Not applicable.	IUCLID 5
ammonium dihydrogenorthophosphate	Not applicable.	Negative	Negative	Rat	Oral: 1500 mg/kg bw/day	Not applicable.	IUCLID 5
Potassium nitrate	Negative	Negative	Negative	Rat	Oral: > 1500 mg/kg bw/day OECD 422	28 days	IUCLID 5
Product/ingredient name	Result	Species	Dose	Exposure	References		
copper sulphate pentahydrate	Negative - Oral OECD 414	Rabbit	23.6 mg/kg	21 days Repeated dose	IUCLID 5		

**Potential chronic health effects**

Product/ingredient name	Result	Species	Dose	Exposure	References
copper sulphate pentahydrate	NOAEL Feed additive. Oral	Rat	1,000 mg/kg Repeated dose OECD 408	92days 7 days per week	IUCLID 5
ammonium sulphate	NOAEL Oral	Rat	256 mg/kg	365days	IUCLID 5
	NOEC Inhalation	Rat	0.3 mg/kg	14days 8 hours per day	IUCLID 5
ammonium dihydrogenorthophosphate	NOAEL Oral	Rat	250 mg/kg OECD 422	42days	IUCLID 5
Potassium nitrate	NOAEL Oral	Rat	> 1,500 mg/kg	28days	IUCLID 5



## Section 12. Ecotoxicological Information

HSNO Classes: 9.1B = Toxic to aquatic life with long lasting effects.  
9.3C = Harmful to terrestrial vertebrates.

<b>Persistence and degradability</b>	No data available.
<b>Bioaccumulation</b>	No data available.
<b>Mobility in Soil</b>	No data available.
<b>Other adverse effects</b>	No data available.

### Toxicity

Product/ingredient name	Result	Species	Exposure	References
boric acid				
	Acute LC50 > 100 mg/l Fresh water	Fish	4 d	IUCLID
	Acute EC50 > 100 mg/l Fresh water	Daphnia	2 d	IUCLID
copper sulphate pentahydrate				
	Acute LC50 0.09 mg/l	Fish	96 h	IUCLID 5
	Acute EC50 0.0211 mg/l Fresh water	Green algae	4 d	Arch.Environ.Conta m.Toxicol. 43(1):19-27
ammonium sulphate				
	Acute EC50 169 mg/l Fresh water	Daphnia	48 h	IUCLID
	Acute EC50 1,605 mg/l Fresh water	Algae	120 h	IUCLID
ammonium dihydrogenorthophosphate				
	Acute LC50 85.9 mg/l Fresh water OECD 203	Fish	96 h	IUCLID
	Acute LC50 1,790 mg/l Fresh water	Water flea	72 h	IUCLID
	Acute LC50 > 100 mg/l Fresh water OECD 201	Algae	72 h	IUCLID
	Chronic NOEC 100 mg/l Fresh water OECD 201	Algae	72 h	IUCLID
Potassium nitrate				
	Acute LC50 1,378 mg/l Fresh water OECD 203	Fish	96 h	IUCLID 5
	Acute EC50 490 mg/l Fresh water	Daphnia	48 h	IUCLID 5
	Acute EC50 > 1,700 mg/l Fresh water	Algae	240 h	IUCLID 5

### Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
boric acid	0.175-1.09	Not applicable.	low

Do not allow to enter waterways.

## Section 13. Disposal Considerations

**Disposal Method:**

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty the bag by shaking to remove as much as possible of its contents. Empty bags may be disposed of as non-hazardous material or returned for recycling.

**Precautions or methods to avoid:** Avoid release to the environment.

<b>Section 14</b>	<b>Transport Information</b>
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**This product is classified as a Dangerous Good for transport in NZ ; NZS 5433:2012**



**Road, Rail, Sea and Air Transport**

<b>UN No</b>	3077
<b>Class - Primary</b>	9
<b>Packing Group</b>	III
<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S
<b>Marine Pollutant</b>	Yes
<b>Special Provisions</b>	If the product's individual container is below 5KG, 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.

<b>Section 15</b>	<b>Regulatory Information</b>
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EPA Approval Code: Fertilisers (subsidiary) – HSR002571

HSNO Classification: 6.1E(oral), 6.3A, 6.4A, 6.5B, 6.8B, 9.1B, 9.3C

HSWA & EPA Controls	Trigger Quantity
Certified Handler	Not required
Location Certificate	Not required
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	1000kg (9.1B)
Emergency Response Plan	1000kg (9.1B)
Secondary Containment	1000kg (9.1B)
Restriction of Use	None

<b>Section 16</b>	<b>Other Information</b>
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**Glossary**

EC <sub>50</sub>	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.

LC <sub>50</sub>	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD <sub>50</sub>	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.

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