SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product:	WUXAL® Magnesium
Product No:	22322
Product Use:	Plant nutrition, slow release fertilizer
Restriction of Use:	Refer to Section 15
New Zealand Supplier:	Horticentre 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:	25 July 2019 v2

Section 2. Hazards Identification

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

Group Standard & EPA Approval Code: Fertilisers (Subsidiary) - HSR002571

Pictograms

Irritant

Chronic

Signal Word: **WARNING**

HSNO Class.	Hazard Code	Hazard Statement	GHS Category
6.4A	H319	Causes serious eye irritation.	Eye Irrit. 2A
6.8B	H361	Suspected of damaging fertility or the unborn child.	Repr. 2
6.9B	H373	May cause damage to organs through prolonged or repeated exposure.	STOT RE 2
9.1C	H412	Harmful to aquatic life with long lasting effects.	Aquatic Chronic 3

Prevention Code	Prevention Statement
P103	Read label before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe fumes, gas, mist, vapours or spray.

P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective clothing.
P281	Use personal protective equipment as required.

Response Code	**Response Statement**
P314	Get medical advice/attention if you feel unwell.
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.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Storage Code	**Storage Statement**
P405	Store locked up.

Disposal Code	**Disposal Statement**
P501	Triple rinse container. Cleaned packaging maybe offered for recycling or landfill in accordance with local regulations. Dispose of unwanted product and/or rinsate as a hazardous material according to Local Regulations.

Section 3. Composition / Information on Ingredients

Ingredients	Wt%	CAS NUMBER.
Manganese Sulphate	1-5	10034-96-5
Zinc Sulphate-monohydrate	1-5	7446-20-0
Boric Acid	<2	10043-35-3

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes — Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice.

If on Skin — Wash with plenty of soap and water. If skin irritation occurs: get medical advice/attention.

If Swallowed — Immediately rinse the mouth. DO NIT induce vomiting. Consult the doctor in case of persistent trouble.

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: Not applicable
Inhalation: Not applicable
Skin: Not applicable
Eye: Causes severe eye irritation.
Chronic: Suspected of damaging fertility or the unborn child.
May cause damage to organs through repeated or prolonged exposure.

Section 5. Fire Fighting Measures

Hazard Type	Non Flammable
Hazards from decomposition products	The material itself is harmless and hardly inflammable. Ambient fire may liberate hazardous vapours. If larger quantities of the product are on fire, the formation of sulfur oxide gases is possible.
Suitable Extinguishing media	Water, carbon dioxide, dry extinguishing media, foam.
Precautions for firefighters and special protective clothing	Do not stay in dangerous zone without suitable protecting clothes and self-contained breathing apparatus. Contain escaping vapours with water. Prevent fire-fighting water from entering surface water or groundwater.
HAZCHEM CODE	**1Z**

Section 6. Accidental Release Measures

Wear suitable protecting clothes. Avoid product contact and formation of vapours/aerosols. Do not inhale vapours/aerosols. In event of vapours/aerosols wear respiratory protection, safety glasses and gloves.

Take up with absorption media. Sweep or vacuum material when possible and shovel into a waste container.

Disposal of contaminated material as waste according to section 13.

Ensure that the product does not reach the ground-water, water bodies or the drainage system.

Section 7. Handling and Storage

Handling

- Read label before use.
- Do not handle until all safety precautions have been read and understood.
- Do not breathe fumes, gas, mist, vapours or spray.
- Wash hands thoroughly after handling.
- Avoid release to the environment.
- Wear protective clothing.
- Use personal protective equipment as required.

Storage

- It is recommended to design stockrooms so that the product is well-protected from weather factors, humidity, solar radiation, heat up and impurities.
- Keep containers tightly closed and store in a cool dry place.
- To fight a fire and decomposition keep care of a sufficient water supply.
- Ensure high standard of housekeeping in the storage area.
- Do not store together with food and luxury food, beverage and animal feed.
- Store locked up.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

	TWA		STEL	
Substance	**ppm**	**mg/m^3**	**ppm**	**mg/m^3**

No ingredient has 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 Ensure adequate ventilation to minimize exposure

Personal Protection Equipment

Eyes	In event of dust wear safety glasses.
Hands	Wear nitrile gloves.
Skin	Closed working clothes.
Respiratory	Required when vapours/aerosols are generated. Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances.
General	Immediately change contaminated clothing. Apply skin-protective barrier cream. Wash hands and face after working with substance.

Section 9 Physical and Chemical Properties

Appearance	Aqueous Crystal suspension
Colour	Green
Odour	Product specific
Odour Threshold	Not applicable
pH (original state)	Approx 5
pH at 16g/l H2O and 20^{0}C:	Approx 8
Boiling Point	Not applicable
Melting Point	Not applicable
Freezing Point	Not applicable
Flash Point	Not applicable
Flammability	Not applicable
Upper and Lower Explosive Limits	Not applicable
Explosive hazards	Not applicable
Vapour Pressure	Not applicable
Vapour Density	Not applicable
Density @ 20^{0}C	approx. 1.50 g/cm^3
Water Solubility @ 20^{0}C	To a very high degree
Partition Coefficient:	Not applicable
Self-ignition	Not applicable
Decomposition Temperature	Not applicable
Kinematic Viscosity	Not applicable
Particle Characteristics	Not applicable

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Possibility of hazardous reactions	Reacts with alkalis setting ammonia free.
Conditions to Avoid	Direct solar radiation, heat up and dry up. Temperatures above +40° C.
Incompatible Materials	Strong alkaline materials, strong acid materials.
Hazardous Decomposition Products	If larger quantities of the product are on fire, the formation of nitrous gases and ammonia is possible.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Not applicable. LD50 (oral): =>5000 mg/kg.
Dermal	Not applicable.
Inhalation	Not applicable.
Eye	Cause serious eye irritation.
Skin	Not applicable.

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	Not applicable.
STOT/RE	May cause damage to organs through prolonged or repeated exposure.

Section 12. Ecotoxicological Information

HSNO Classes: 9.1C = Harmful to aquatic life with long lasting effects.

Product:	
Persistence and degradability	No data available
Bioaccumulation	No data available
Mobility in Soil	No data available
Other adverse effects	No data available

Ensure that the product does not reach the ground-water, water bodies or the drainage system.

The following applies to manganese ions in general:
Interference threshold for turbellarian worms (Polycelis nigra) 660 mg/l.
EC_{50} (microregma) 31 mg/l.
Fish toxicity:
LC_{50} (orfe) 2490 mg/l;
LC_{50} (trout) 2.91 mg/l (28 days).
Daphnia toxicity: LC_{50} (daphnia magna) 50 mg/l.
Acute toxicity:
Pseudomonas putida 10.6 mg/l;
Photobacterium phosphoreum 14.7 mg/l.

The following applies to sulfate:
Biological effects: fish: toxic as from 7 g/l ;

Section 13. Disposal Considerations

Disposal Method:
Triple rinse container. Add rinsate to waste container for disposal. Cleaned packaging maybe offered for recycling or landfill in accordance with local regulations. Dispose of unwanted product as a hazardous material according to Local Regulations.

Precautions or methods to avoid: Do not allow to enter waterways.

Section 14 Transport Information

This product is not classified as a Dangerous Good for transport in NZ ; NZS 5433:2012

Section 15 Regulatory Information

EPA Approval Code: Fertilisers (Subsidiary) - HSR002571

HSNO Classification: 6.4A, 6.8B, 6.9B, 9.1C

HSW (HS) Regulations 2017 and EPA Notices	Trigger Quantity
Certified Handler	Not required
Location Certificate	Not required
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	1000L(9.1C)
Emergency Response Plan	1000L (9.1C)
Secondary Containment	1000L (9.1C)
Restriction of Use	Only use for the intended purpose.

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

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Please contact the Horticentre, if further information is required.

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