

SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: Substrate 14+16+18
 Product No:
 Product Use: Fertilizer
 Restrictions of Use: Refer to Section 15

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

Telephone: +64 9 294 8453
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New Zealand: **0800 764 766 (National Poison Centre)**

Date of SDS Preparation: 23 August 2022 v2

Section 2. Hazards Identification

NOT classified as hazardous according to Regulation (EC) No. 1272/2008 [CLP] which meets New Zealand jurisdiction criteria as per EPA Hazardous Substances (Safety Data Sheets) Notice 2017.

Section 3. Composition / Information on Ingredients

Ingredients	Wt%	CAS NUMBER.
Potassium nitrate	10 - 45	7757-79-1
Ammonium Nitrate	10 - 45	6484-52-2
Boric acid	0.1 - 0.2	11113-50-1

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 with water and drink afterwards plenty of water. 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. In case of lung irritation, first treatment with dexametason aerosol (spray). Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed

Symptoms: Ingestion may provoke the following symptoms:
Methaemoglobinemia

Risks: Later control for pneumonia and lung oedema

Indication of any immediate medical attention and special treatment needed

Treatment Treat symptomatically. There is no specific antidote available.

Section 5. Fire Fighting Measures

Hazard Type	Non Flammable
Hazards from combustion products	Thermal decomposition can lead to release of irritating gases and vapours. Nitrogen oxides (NOx) ammonia
Suitable Extinguishing media	Water Do not use: Carbon dioxide (CO2), Foam, Sand, dry chemical.
Precautions for firefighters and special protective clothing	In the event of fire, wear self-contained breathing apparatus. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
HAZCHEM CODE	None allocated.

Section 6. Accidental Release Measures

Remove all sources of ignition. Wear appropriate PPE as detailed in Section 8.

Use mechanical handling equipment for cleanup. Dispose of according to Section 13.

Do not allow to enter into surface water or drains.

Section 7. Handling and Storage**Handling**

- Keep out of reach of children.
- Read label before use.
- Keep away from direct sunlight.
- Keep away from heat and sources of ignition.
- Protect from contamination.
- Protect from moisture.
- Wash hands before breaks and at the end of the workday.

Storage

- To maintain product quality, do not store in heat or direct sunlight.
- Keep away from sources of ignition - No smoking.
- Keep away from combustible material.
- Protect from contamination.
- Protect from moisture.
- When stored loose do not mix with other fertilizers.
- Keep in a dry place.

Section 8 Exposure Controls / Personal Protection**WORKPLACE EXPOSURE STANDARDS (provided for guidance only)****TWA****STEL**

Substance**ppm mg/m³****ppm mg/m³**

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 APRIL 2022 13TH EDITION.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
ammonium nitrate	Workers	Inhalation	Long-term systemic effects	36 mg/m ³
	Workers	Skin contact	Long-term systemic effects	5,12 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	2,56 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	8,9 mg/m ³
	Consumers	Skin contact, Ingestion	Long-term systemic effects	2,56 mg/kg bw/day
	potassium nitrate	Workers	Inhalation	Systemic effects
Workers		Skin contact	Systemic effects	20,8 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Ingestion	Systemic effects	12,5 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Skin contact	Systemic effects	12,5 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Inhalation	Systemic effects	10,9 mg/m ³
Boric acid	Workers	Inhalation	Long-term exposure, Systemic effects	8,28 mg/m ³
	Workers	Skin contact	Long-term exposure, Systemic effects	392 mg/kg
	Consumers	Ingestion	Short-term exposure, Systemic effects	0,98 mg/kg
	Consumers	Ingestion	Long-term exposure, Systemic effects	0,98 mg/kg
	Consumers	Inhalation	Long-term exposure, Systemic effects	4,15 mg/m ³
	Consumers	Skin contact	Long-term exposure, Systemic effects	196 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
ammonium nitrate	Sewage treatment plant	18 mg/l

potassium nitrate	Fresh water	0,45 mg/l
	Marine water	0,045 mg/l
	Ceiling Limit Value	4,5 mg/l
	Sewage treatment plant	18 mg/l

Engineering Controls

Ensure adequate ventilation is available.

Personal Protective Equipment:



Eyes	In case of dust formation: Tightly fitting safety goggles
Hands and Skin	Wearing of gloves is recommended.
Respiratory	Particle filtering disposable mask DIN EN 149 with filter FFP2.
General	Wash hands before breaks and at the end of workday.

Section 9 Physical and Chemical Properties

Appearance	Powder
Odour	Light grey
Odour Threshold	Not available
pH @ 20°C	ca.4.5 Concentration: 100,00 g/l
Boiling Point	Not available
Melting Point	Not available
Freezing Point	Not available
Flash Point	Not available
Flammability	The product is not flammable.
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Bulk Density	ca. 1.150 kg/m ³
Solubilities	Soluble
Partition Coefficient:	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	ca. 130 °C, To avoid thermal decomposition, do not overheat. The product is capable of self-sustaining progressive thermal decomposition.
Kinematic Viscosity	Not available
Particle Characteristics	Not applicable
Oxidising properties	Not considered an oxidizing substance.

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Hazardous reactions	Evolution of ammonia under influence of alkalis.
Conditions to Avoid	Keep away from heat and sources of ignition.
Incompatible Materials	Sulphur, chlorites, chloride, chlorates, Hypochlorites, acid or alkaline reacting substances, flammable oxidizable substances, nitrites, metallic salts, metallic powder, herbicide, chlorinated hydrocarbons, organic compounds.
Hazardous Decomposition	nitrogen oxides (NOx) ammonia

Products**Section 11 Toxicological Information****Acute Effects:**

Swallowed	Not applicable.
Dermal	Not applicable.
Inhalation	Not applicable.
Eye	Not applicable.
Skin	Not applicable.

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	Not applicable.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	Not applicable.
STOT/RE	Not applicable.

Components:**ammonium nitrate:**

Acute oral toxicity : LD50 (Rat): > 2.950 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : > 88,8 mg/l
Method: No information available.

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 402

potassium nitrate :

Acute oral toxicity : LD50: > 2.000 mg/kg, rat

Acute inhalation toxicity : LC50: > 0,527 mg/l, rat

Acute dermal toxicity : LD50: > 5.000 mg/kg, rat

boric acid :

Acute oral toxicity : LD50: 3.450 mg/kg, mouse

: LD50: 2.660 mg/kg, rat

Acute inhalation toxicity : LC50: > 2 mg/l, rat

Acute dermal toxicity : LD50 Dermal: > 2.000 mg/kg, rabbit

Section 12. Ecotoxicological Information

This product is not hazardous to the environment.

Persistence and degradability	No data available.
Bioaccumulation	Bioaccumulation is unlikely.
Mobility in Soil	Groundwater contamination is unlikely.
Other adverse effects	No data available

Components:

Toxicity

Components:

ammonium nitrate:

Toxicity to fish : LC50 (Fish): > 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia (water flea)): 490 mg/l
aquatic invertebrates Exposure time: 48 h

LC50 : 490 mg/l

Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): 1.700 mg/l
Exposure time: 10 d

potassium nitrate:

Toxicity to fish : LC50 (Fish): > 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 490 mg/l
aquatic invertebrates Exposure time: 48 h

Toxicity to algae : LC50 : >= 1.700 mg/l
Exposure time: 10 d

Section 13. Disposal Considerations

Disposal Method:

Triple rinse container. 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 and methods to avoid:

Do not allow to enter into surface water or drains where possible.

Section 14 Transport Information

This product is NOT classified as a Dangerous Good for transport in NZ ; NZS 5433:2020

Section 15 Regulatory Information

NOT classified as hazardous according to Regulation (EC) No. 1272/2008 [CLP] which meets New Zealand jurisdiction criteria as per EPA Hazardous Substances (Safety Data Sheets) Notice 2017.

Section 16 Other Information

Glossary

Cat	Category
EC ₅₀	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
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 2022 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2020
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

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

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