

SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **Top Substra**
 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.
ammonium nitrate	≥10- <45	6484-52-2
Borates, tetra sodium salts, pentahydrate	≤0.2	12179-04-3
Non-hazardous ingredients	To Bal	

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: Get medical advice.

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

If Swallowed: Clean mouth with water and drink afterwards plenty of water. 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. In case of lung irritation, first treatment with dexametason aerosol (spray).

Most important symptoms and effects, both acute and delayed

Symptoms: Ingestion may provoke the following symptoms:

Methaemoglobinemia

Risk: 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: Foam, Dry chemical, Carbon dioxide (CO2) and Sand.
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

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

Precautions for Handling:

- Keep away from direct sunlight.
- Always read label and product information before use.
- Keep away from heat.
- Protect from contamination.
- Protect from moisture.
- The product is not flammable. Keep away from heat and sources of ignition.
- Wash hands before breaks and at the end of workday.

Precautions for Storage:

- Keep away from combustible material, strong acids and strong bases.
- Keep away from direct sunlight.
- 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)

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

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
Borates, tetra sodium salts, pentahydrate	Workers	Inhalation	Long-term exposure	6,7 mg/m ³
	Consumers	Inhalation	Long-term exposure	3,4 mg/m ³
	Workers	Skin contact	Long-term exposure	316,4 mg/kg bw/day
	Consumers	Skin contact	Long-term exposure	159,5 mg/kg bw/day
	Consumers	Ingestion	Long-term exposure,	0,79 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
Borates, tetra sodium salts, pentahydrate	Fresh water	2,9 mg/l
	Marine water	2,9 mg/l
	Soil	5,7 mg/kg
	Intermittent use/release	13,7 mg/l
	Sewage treatment plant	10 mg/l

Engineering Controls

Ensure adequate ventilation is available

Personal Protection Equipment.



Eyes	In case of dust formation: Safety glasses
Hands and Skin	Gloves
Respiratory	Breathing apparatus only if aerosol or dust is formed. Particle filter EN 143 Type P1, low efficiency, (solid particles of inert substances).
General	At the end of the shift the skin should be cleaned and skin care agents applied.

Section 9 Physical and Chemical Properties

Appearance	Various colours - Granular
Odour	Very Faint
Odour Threshold	Not available
pH	ca. 5 Concentration: 100 g/l (20 °C)
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
Vapour Density	Not available
Bulk Density	ca. 1.150 kg/m ³
Solubilities	Soluble
Partition Coefficient:	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	> 130 °C To avoid thermal decomposition, do not overheat.
Kinematic Viscosity	Not available
Particle Characteristics	Not applicable

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 Products	Nitrogen dioxide, ammonia.

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

Borates, tetra sodium salts, pentahydrate:

Acute oral toxicity : LD50 (Rat): 3.200 - 3.400 mg/kg
Method: No information available

Acute inhalation toxicity : LC50 (Rat): > 2,0 mg/l
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg
Method: No information available

Section 12. Ecotoxicological Information

This product is not hazardous to the environment.

Toxicity to fish : LC50: 422 mg/l, 48 h, Cyprinus carpio (Carp), static test

Product:

Toxicity to daphnia
And other aquatic
Invertebrates : EC50: 555 mg/l, 48 h, Daphnic, static test

Toxicity to algae : No observed effect concentration: 83 mg/l, 168 h,
Desmodesmus subspicatus (green algae), other, no data available

Toxicity to bacteria : EC20: ca. > 100 mg/l, 0,5 h, activated sludge, other, no data
available

Components:

ammonium nitrate:

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

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

LC50 : 490 mg/l

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

Borates, tetra sodium salts, pentahydrate:

Toxicity to fish	: LC50 (Fish): 74 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 242 mg/l Exposure time: 24 h
Toxicity to algae	: EC10 (Scenedesmus subspicatus): 24 mg/l Exposure time: 96 h

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

Section 13. Disposal Considerations

Disposal Method: Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

Disposal methods to avoid: None known.

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

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