

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: 27 September 2017

Section 2. Hazards Identification

This substance is hazardous according to the HSNO (Minimum Degrees of Hazard) Regulations 2001

Group Standard & EPA Approval Code: Fertilisers (subsidiary) – HSR002571

Pictograms



Irritant

Signal Word: **WARNING**

HSNO Class.	Hazard Code	Hazard Statement	GHS Category
6.1E (oral)	H303	May be harmful if swallowed.	Category 5
6.4A	H319	Causes serious eye irritation.	Category 2A
9.1D	H401	Toxic to aquatic life.	Category 4

Prevention Code Prevention Statement

P102	Keep out of reach of children.
P103	Read label before use.
P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective clothing.

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.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Storage Code	Storage Statement
None allocated	

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 as a hazardous material according to Local Regulations.

Section 3. Composition / Information on Ingredients

Ingredients	Wt%	CAS NUMBER.
Ammonium nitrate	>10 - <45	6484-52-2
Disodium tetraborate pentahydrate	0.2	12179-04-3
Non hazardous	To bal	

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. 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. Get medical advice if breathing becomes difficult.

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.

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

Handling

- Keep out of reach of children.
- Read label before use.
- Avoid release to the environment.
- Keep away from direct sunlight.
- Keep away from heat.
- Protect from contamination. Protect from moisture.
- Wear protective clothing.

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 or moisture.
- When stored loose do not mix with other fertilizers. Protect from moisture.
- Store away from incompatible materials listed in Section 10.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA ppm mg/m³	STEL ppm mg/m³
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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.

Control parameters

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	Specific effects	37,6 mg/m3
	Workers	Skin contact	Specific effects	21,3 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Ingestion	Specific effects	12,8 mg/kg

Remarks:	Exposure time: 1 d			
	Consumers	Inhalation	Specific effects	11,1 mg/m ³
Remarks:	Exposure time: 1 d			

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

Substance name	Environmental Compartment	Value
Ammonium nitrate	Fresh water	0,45 mg/l
	Marine water	0,045 mg/l
	Ceiling Limit Value	4,5 mg/l

Engineering Controls

Ensure adequate ventilation is available.

Eyes	In case of dust formation: Tightly fitting safety goggles.
Hands and Skin	Wearing of gloves is recommended.
Respiratory	Breathing apparatus only if aerosol or dust is formed. Respirator with a particle filter (EN 143) P1 filter
General	At the end of the shift the skin should be cleaned and skin care agents applied. Wash hands before breaks and at the end of workday.

Section 9 Physical and Chemical Properties

Appearance	Solid
Colour	various
Odour	Odourless
Odour Threshold	Not available
pH @ 20°C	ca. 5, Concentration: 100,00 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
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.
Kinematic Viscosity	Not available
Particle Characteristics	Not applicable

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Conditions to Avoid	Keep away from heat and sources of ignition.
Hazardous Reactions	Evolution of ammonia under influence of alkalis.
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 oxides (NOx), ammonia

Section 11 Toxicological Information

Acute Effects:

Swallowed	May be harmful if swallowed. Mixture Rules calculation = LD50 = 4906mg/kg
Dermal	Not applicable.
Inhalation	Not applicable.
Eye	Causes severe irritation to eyes.
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: > 2.950 mg/kg, rat, OECD Test Guideline 401
- Acute inhalation toxicity : > 88,8 mg/l, No information available.
- Acute dermal toxicity : LD50: > 5.000 mg/kg, rat, OECD Test Guideline 402
- Skin corrosion/irritation : rabbit, Result: non-irritant, OECD Test Guideline 404
- Serious eye damage/eye irritation : rabbit, Result: Irritant, OECD Test Guideline 405
- Respiratory or skin sensitization : Result: Does not cause skin sensitization.
- Germ cell mutagenicity
- Genotoxicity in vitro : Result: negative, OECD Test Guideline 471
- Carcinogenicity : rat, Animal testing did not show any carcinogenic effects.
- Reproductive toxicity : rat, Animal testing did not show any effects on fertility.
- Teratogenicity : rat, Did not show teratogenic effects in animal experiments.
- STOT - repeated exposure : rat, Oral, Exposure time: 28 d, NOAEL: > 1.500 mg/kg
- STOT - repeated exposure : rat, Oral, Exposure time: 52 w, NOAEL: = 256 mg/kg, OECD Test Guideline 453
- STOT - repeated exposure : rat, by inhalation, Exposure time: 2 w, NOAEL: >= 185 mg/kg, Repeated Dose Inhalation Toxicity: 28-day or 14-day Study.

disodium tetraborate pentahydrate :

- Acute oral toxicity : LD50: 3.200 - 3.400 mg/kg, rat
- Acute inhalation toxicity : LC50: > 2,0 mg/l, rat, OECD Test Guideline 403
- Acute dermal toxicity : LD50: > 2.000 mg/kg, rabbit
- Skin corrosion/irritation : rabbit, Result: No skin irritation

Serious eye damage/eye irritation : rabbit, Result: Moderate eye irritation, Classification: Irritant

Respiratory or skin sensitization : Buehler Test, guinea pig, Result: Does not cause skin sensitization., OECD Test Guideline 406

Germ cell mutagenicity Assessment : In vitro tests showed mutagenic effects

Section 12. Ecotoxicological Information

HSNO Classifications: 9.1D = Toxic to aquatic life.

Components:

Ammonium nitrate:

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

Toxicity to daphnia and other : EC50 :490 mg/l aquatic invertebrates
Exposure time: 48 h

Toxicity to algae: LC50 : >= 1.700 mg/l *Selenastrum capricornutum* (green algae)
Exposure time: 10 d

disodium tetraborate pentahydrate :

Toxicity to fish : LC50: > 74 mg/l
Exposure time: 96 h, dab

Toxicity to daphnia and other : EC50 :242 mg/l , *Daphnia magna* (Water flea)
Exposure time: 24 h

Toxicity to algae: EC10 : >= 24 mg/l *Scenedesmus subspicatus*
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.

Do not allow to enter waterways.

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 5433:2012

Section 15 Regulatory Information

EPA Approval Code: Fertilisers (subsidiary) – HSR002571

HSNO Classification: 6.1E(oral), 6.4A, 9.1D

HSNO Controls:

Trigger quantities for this substance:

	Trigger Quantity
Approved Handler	Not required
Location Certificate	Not required
Tracking Trigger Quantities	Not applicable
Signage Trigger Quantities	10 000L (9.1D)
Emergency Response Plan trigger Quantities	10 000L (9.1D)
Restrictions of use	None

Section 16 Other Information

Glossary

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

1. HSNO Approved Code of Practice: Preparation of Safety Data Sheets, September 2006.
Disclaimer

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

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