SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product:	NovaTec® N-Max 24-5-5
Product No:	
Product Use:	Fertiliser
Restrictions 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
New Zealand:	**0800 764 766 (National Poison Centre)**
Date of SDS Preparation:	14 March 2023

Section 2. Hazards Identification

Classified as NOT 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	≥45 - ≤70	6484-52-2
Borates, tetra sodium salts, pentahydrate	≤0.2	12179-04-3

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/attention.
If on Skin	Wash off with soap and water. If skin irritation occurs: Get medical advice/attention.
If Swallowed	Rinse mouth with water. Get medical advice or attention if you feel unwell or are concerned.
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
Later control for pneumonia and lung oedema.

Notes to Doctor: Treat symptomatically.
There is no specific antidote available.

Section 5. Fire Fighting Measures

Hazard Type	Non Flammable
Hazards from combustion products	At temperatures above 130 °C, dangerous decomposition gases can be emitted: Nitrogen monoxide, nitrogen dioxide, dinitrogen oxide, ammonia
Suitable Extinguishing media	Carbon dioxide, dry chemical powder, appropriate foam, water spray or 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 adequate personal protective equipment as detailed in Section 8. Avoid dust formation. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Do not allow into any sewer, on the ground or into any waterway.

Use mechanical handling equipment. Dispose of as per Section 13.

Section 7. Handling and Storage

Handling

- Protect from contamination.
- Keep away from direct sunlight.
- Protect against heat.
- Protect from moisture.
- The product is not flammable.
- Keep away from heat and sources of ignition.
- Keep away from combustible materials.
- At the end of the shift the skin should be cleaned and skin care agents applied.

Storage

- Store away from incompatible materials listed in Section 10.
- Keep away from heat. Keep away from sources of ignition - No smoking.
- Keep away from combustible material.
- Protect from contamination.
- When stored loose do not mix with other fertilizers. Protect against humidity (product is hygroscopic and tends to cake or disintegrate).
- Protect against water. Keep away from direct sunlight.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

	TWA	**STEL**

Substance		ppm	mg/m³	ppm	mg/m³
Borates, tetra, sodium salts (Pentahydrate)	[12179-04-3]	-	1	-	-

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	36 mg/m3
	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/m3
	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/m3
	Consumers	Inhalation	Long-term exposure	3,4 mg/m3
	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, Short-term exposure	0,79 mg/kg bw/day

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.

Personal Protective Equipment

Eyes	Not required.
Hands and Skin	Not required.
Respiratory	Respiratory protection only if aerosol or dust is formed. Particle filter EN 143 Type P1, low efficiency, (solid particles of inert substances).

Section 9 Physical and Chemical Properties

Appearance	Granular
Colour	Various
Odour	Very faint
Odour Threshold	Not available
pH	Ca. 5 – 5.5 concentration 100g/L (20^0C)
Boiling Point	Not available
Melting/Freezing Point	Not available
Flash Point	Not available
Flammability	Not flammable
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Density @ 20^0C	Not available
Bulk Density	Ca/ 1.150kg/m^3
Solubilities	Soluble in water
Partition Coefficient:	Not available
Auto-ignition Temperature	> 130 °C To avoid thermal decomposition, do not overheat.
Decomposition Temperature	Not available
Kinematic Viscosity @ 20^0C	Not available
Dynamic Viscosity @ 20^0C	Not available
Particle Characteristics Particle Size Distribution	Not available D50 = 3,2 mm D50 Tolerance range = 2,8 mm - 3,6 mm Measurement technique: Optoelectronic measurement method

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Conditions to Avoid	Protect from frost, heat and sunlight. Avoid moisture.
Hazardous Reactions	Evolution of ammonia under influence of alkalis.
Incompatible Materials	Sulphur, chlorites, chloride, chlorates, Hypochlorite's, acid or alkaline reacting substances, flammable oxidizable substances, nitrites, metallic salts, metallic powder, herbicide, chlorinated hydrocarbons, organic compounds.
Hazardous Decomposition Products	Nitrogen monoxide, nitrogen dioxide, dinitrogen oxide, ammonia.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Not applicable. LD50 (Rat): > 2000 mg/kg
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.

Individual component information:

Acute Toxicity:

Chemical Name	Oral – LD50	Dermal – LD50	Inhalation – LC50
ammonium nitrate:	> 2950 mg/kg (rat)	>5000mg/kg (rat)	> 88.8 mg/l
Borates, tetra sodium salts, pentahydrate:	3200 - 3400 mg/kg (rat)	>2000 mg/kg (rabbit)	> 2.0 mg/l (rat)

Section 12. Ecotoxicological Information

This product is not hazardous to the environment.

Product:	
Persistence and degradability	The product works in the soil as fertilizer and is diminished in a few weeks.
Bioaccumulation	Bioaccumulation is unlikely.
Mobility in Soil	No data available
Other adverse effects	Disposal via sewage water treatment plants may cause impairment of the nitrification activity of the activated sludge. There is a high probability that the product is acute not harmful to aquatic organisms. Additional ecological information The product has not been tested. The information is derived from the properties of the individual components. At higher pH values, which can be found in natural surface waters, an increase of toxic effects on aquatic organsims may be expected.

Individual component information:

Ammonium nitrate:

Route	Species	Duration	Value LC50/EC50
Acute aquatic, fish	Fish	96 hr	>100 mg/L
Acute aquatic, Crustacean	Daphnia (water flea)	48 hr	490 mg/L
Acute aquatic, Algal	Selenastrum capricornutum (green algae)	10d	1.700 mg/L

Borates, tetra sodium salts, pentahydrate:

Route	Species	Duration	Value LC50/EC50
Acute aquatic, fish	Fish	96 hr	74 mg/L
Acute aquatic, Crustacean	Daphnia (water flea)	24 hr	242 mg/L
Acute aquatic, Algal	Scenedesmus subspicatus	96 hr	24 mg/L

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: None known.

Section 14 Transport Information

This product is NOT classified as a Dangerous Good for transport in NZ ; NZS 5433:2020 and SNZ HB 5433:2021

Section 15 Regulatory Information

Classified as NOT 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 APRIL 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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