

## SAFETY DATA SHEET

### Section 1. Identification of the material and the supplier

Product: **YaraLiva NITRABOR**  
 Item Code: PA34LG  
 Product Use: Fertiliser  
 Restriction of Use: Refer to Section 15

New Zealand Supplier: Horticulture 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: 26 February 2019

### Section 2. Hazards Identification

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

**EPA Approval No: Fertilisers (subsidiary) – HSR002571**

#### Pictograms



Toxic      Corrosive      Chronic

Signal Word: **DANGER**

HSNO Classification	Hazard Code	Hazard Statement	GHS Category
6.1D (oral)	H302	Harmful if swallowed.	Acute Tox. 4
6.8B	H361	Suspected of damaging fertility or the unborn child.	Repr. 2
8.3A	H318	Causes serious eye damage.	Eye Corr. 1

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P201	Obtain special instructions before use.

P202	Do not handle until all safety precautions have been read and understood.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective clothing as detailed in Section 8.
P281	Use personal protective equipment as required.

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P310	Immediately call a POISON CENTER or doctor/physician.
P330	Rinse mouth.
P301 + P312	IF SWALLOWED: 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.

Storage Code	Storage Statement
P405	Store locked up.

Disposal Code	Disposal Statement
P501	Dispose of according to Local Regulations or Authorities

### Section 3. Composition / Information on Ingredients

Ingredients	Wt%	CAS NUMBER.
Nitric acid, ammonium calcium salt	>90-<100	15245-12-2
disodium tetraborate pentahydrate	>2-<2.5	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 call doctor/physician.
If on Skin	Gently wash with plenty of soap and water. Do not rub affected area. Get medical attention if irritation develops.
If Swallowed	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention 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.

#### Most important symptoms and effects, both acute and delayed

Symptoms:

<b>Ingestion:</b>	Harmful if swallowed. Adverse symptoms include stomach pains.
<b>Inhalation:</b>	Not applicable.
<b>Skin:</b>	Symptoms include irritation and redness.
<b>Eyes:</b>	Corrosive to eyes: Symptoms include pain, watering and redness.

**Treatment:** Treat symptomatically. Contact poison treatment specialist

immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

## Section 5. Fire Fighting Measures

<b>Hazard Type</b>	Non Flammable, Non-combustible material.
<b>Hazards from decomposition products</b>	Decomposition products may include the following materials: nitrogen oxides metal oxide/oxides ammonia Avoid breathing dusts, vapors or fumes from burning materials. In case of inhalation of decomposition products in a fire, symptoms may be delayed.
<b>Suitable Extinguishing media</b>	Use flooding quantities of water for extinction. Do NOT use chemical extinguisher or foam or attempt to smother the fire with steam or sand.
<b>Precautions for firefighters and special protective clothing</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.  Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
<b>HAZCHEM CODE</b>	<b>None allocated</b>

## Section 6. Accidental Release Measures

Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### **Small Spills:**

Move containers from spill area. Avoid dust generation.

Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

### **Large Spills:**

Move containers from spill area. Approach release from upwind. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of according to Local Regulations.

## Section 7. Handling and Storage

### **Precautions for Handling:**

- Read label before use.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.

- As a precaution, keep exposure as low as possible for pregnant women, children and workers in reproductive age.
- Avoid dust generation. Do not breathe dust.
- Do not get in eyes or on skin or clothing.
- Do not ingest.
- If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective clothing as detailed in Section 8.
- Use personal protective equipment as required.

**Precautions for Storage:**

- Keep out of reach of children.
- Store locked up.
- Store in original container protected from direct sunlight in a dry, cool and well ventilated area, away from incompatible materials (see Section 10) and food and drink.
- Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers.
- Use appropriate containment to avoid environmental contamination.
- Keep away from: organic materials, oil and grease.

**Section 8 Exposure Controls / Personal Protection**

**WORKPLACE EXPOSURE STANDARDS (provided for guidance only)**

Substance	TWA		STEL	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>

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 NOV 2017 9TH EDITION.

**Engineering Controls**

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**DNELS/DMELS**

Product name	Type	Exposure	Value	Population	Effects
Nitric acid, ammonium calcium salt	DNEL	Short term Oral	10 mg/kg bw/day	Consumers	Systemic

**PNECS**

Product name	Type	Compartment Detail Value	Value	Method detail
Nitric acid, ammonium calcium	PNEC	Sewage Treatment Plant	18 mg/l	Assessment Factors

## Personal Protection Equipment



<b>Eyes</b>	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead. Recommended: Tightly-fitting goggles.
<b>Hands and Skin</b>	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. For general applications, we recommend gloves with a thickness typically greater than 0.35 mm. It should be emphasized that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material.> 8 hours (breakthrough time): Protective gloves should be worn under normal conditions of use.  Personal protective equipment for the body should be selected based on the task being performed and the risks involved. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
<b>Respiratory</b>	Use respiratory protection with more than 94% efficiency (P2, P3 or N95) and a tight face seal, when risk of exposure to dust.
<b>General</b>	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Section 9 Physical and Chemical Properties

<b>Appearance</b>	Solid (granular solid)
<b>Colour</b>	White
<b>Odour</b>	Odourless
<b>Odour Threshold</b>	Not available
<b>pH</b>	6.3 [Conc. (% w/w): 110 g/l]
<b>Boiling Point</b>	Not available
<b>Melting Point</b>	Decomposes: 400 °C
<b>Freezing Point</b>	Not available
<b>Flash Point</b>	Not available
<b>Flammability</b>	Non flammable
<b>Upper and Lower Explosive Limits</b>	Not available
<b>Vapour Pressure</b>	Not available
<b>Vapour Density</b>	Not available
<b>Bulk Density</b>	1,100 kg/m <sup>3</sup>
<b>Solubilities</b>	Soluble in the following materials: cold water
<b>Partition Coefficient:</b>	Not available
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	Not available

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<b>Kinematic Viscosity</b>	Not available
<b>Particle Size</b>	Not available

## Section 10. Stability and Reactivity

<b>Stability of Substance</b>	This material is thermally stable when stored and used as directed.
<b>Hazardous Reactions</b>	No known hazardous reactions.
<b>Conditions to Avoid</b>	Avoid contamination by any source including metals, dust and organic materials.
<b>Incompatible Materials</b>	alkalis combustible materials reducing materials organic materials acids
<b>Hazardous Decomposition Products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11 Toxicological Information

### Acute Effects:

<b>Swallowed</b>	Harmful if swallowed. May cause burns to mouth, throat and stomach.
<b>Dermal</b>	Not applicable.
<b>Inhalation</b>	May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Eye</b>	Causes severe eye damage.
<b>Skin</b>	Not applicable.

### Chronic Effects:

<b>Carcinogenicity</b>	Not applicable.
<b>Reproductive Toxicity</b>	Suspected of damaging fertility or the unborn child.
<b>Germ Cell Mutagenicity</b>	Not applicable.
<b>Aspiration</b>	Not applicable.
<b>STOT/SE</b>	Not applicable.
<b>STOT/RE</b>	Not applicable.

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	References
Nitric acid, ammonium calcium salt					
	LD50 Oral	Rat	500 mg/kg OECD 423	Not applicable.	IUCLID
	LD50 Dermal	Rat	2,000 - 5,000 mg/kg OECD 402	Not applicable.	IUCLID
disodium tetraborate pentahydrate					
	LD50 Oral	Rat	2,000 - 5,000 mg/kg	Not applicable.	IUCLID
	LD50 Dermal	Rabbit	> 5,000 mg/kg	Not applicable.	IUCLID

### Acute toxicity estimates

Route	ATE value
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Oral

512.3 mg/kg

**Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation	References
Nitric acid, ammonium calcium salt	Eyes - Severe irritant OECD 405	Rabbit	Not applicable.	24 - 72 h	21 d	IUCLID 5

**Potential chronic health effects**

Product/ingredient name	Result	Species	Dose	Exposure	References
Nitric acid, ammonium calcium salt	Sub-acute NOAEL Oral	Rat	> 1,000 mg/kg OECD 407	28 days	IUCLID 5

**Section 12. Ecotoxicological Information**

The product is not hazardous to the environment.

**Toxicity**

Product/ingredient name	Result	Species	Exposure	References
Nitric acid, ammonium calcium salt				
	Acute LC50 447 mg/l Fresh water	Fish	48 h	IUCLID 5
	Acute EC50 > 100 mg/l Fresh water OECD 202	Daphnia	48 h	IUCLID 5
	Acute LC50 > 100 mg/l Fresh water OECD 201	Algae	72 h	IUCLID 5
	Acute EC50 > 1,000 mg/l Activated sludge OECD 209	Activated sludge	3 h	IUCLID 5
disodium tetraborate pentahydrate				
	Acute LC50 > 100 mg/l Fresh water	Fish	96 h	IUCLID
	Acute EC50 > 100 mg/l Fresh water	Daphnia	48 h	IUCLID
	Acute EC50 > 100 mg/l Fresh water	Algae	72 h	IUCLID

<b>Persistence and degradability</b>	Readily biodegradable in plants and soils.
<b>Bioaccumulation</b>	No data available.
<b>Mobility in Soil</b>	This product may move with surface or groundwater flows because its water solubility is: high
<b>Other adverse effects</b>	No data available.

Do not allow to enter waterways.

**Section 13. Disposal Considerations****Disposal Method:**

Spent media that has removed toxic chemicals should be examined for specific hazards. Spilled product may be recovered for use if it has not come in contact with liquids or been exposed to significant amounts of gaseous contaminants. Dispose of according to Local Regulations.

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Ensure any container holding waste product or contaminated spill media is labelled "Hazardous Waste – Corrosive" and that the label also has the Corrosive Pictogram, waste type identifier, and the business name, address, and phone number.

**Precautions or methods to avoid:** None known.

## 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: 6.1D(oral), 6.8B, 8.3A

HSWA & EPA Controls	Trigger Quantity
Certified Handler	Not required
Location Certificate	Not required
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	1000 kg (8.3A)
Emergency Response Plan	1000 kg (6.1D)
Secondary Containment	1000 kg (6.1D)
Restriction of Use	None

## Section 16 Other Information

### Glossary

EC <sub>50</sub>	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
LC <sub>50</sub>	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD <sub>50</sub>	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

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