SAFETY DATA SHEET

According to
HSNO Hazardous Substances (Safety Data Sheets) Notice 2017

Section 1. Identification of the material and the supplier

Product:	**Waikaitu Fruitguard**
Product Use:	Protection of high value fruit. Three main components of Fruitguard work together to nourish the plant, improve abiotic stress resistance and improve plant recovery by reducing oxidative damage.
Restriction of Use:	Refer to Section 15
New Zealand Supplier:	**Waikaitu Limited**
Address:	303 Aporo Road Tasman 7173
Website:	www.waikaitu.com
Telephone:	+64 3 970 0302
Emergency No:	**0800 764 766 (National Poison Centre)**
Date of SDS Preparation:	29 July 2024

Section 2. Hazards Identification

This substance is NOT hazardous according to the EPA Hazardous Substances (Classification) Notice 2020.

Section 3. Composition / Information on Hazardous Ingredients

No hazardous product as specified in Directive 67/548/EEC.
Preparation: Liquid seaweed extract and source of glycine betaine.
Description: Aqueous solution of glycine betaine and undaria pinnatifida seaweed extract.

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	Rinse cautiously with water for 15 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	Do not induce vomiting. Wash out mouth thoroughly with water. Never give anything to the mouth of an unconscious person. If vomiting occurs, place victim face downwards, with the head turned to the side and lower than the hips to prevent vomit entering the lungs. Seek medical attention if needed.

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. Apply artificial respiration if not breathing. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed
Symptoms:

Swallowing:	After swallowing: Nausea and vomiting. After uptake of large quantities: Diarrhoea.
Inhalation:	After inhalation of aerosols: Slight irritations of the mucous membranes and coughing.
Eye Contact:	Slight irritants
Skin Contact:	Slight irritants

Section 5. Fire Fighting Measures

Hazard Type	Non Flammable
Hazards from combustion products	The material itself is harmless and hardly inflammable. Ambient fire may liberate hazardous vapours. If larger quantities of the product are on fire, the formation of nitrous gases and ammonia is possible.
Suitable Extinguishing media	Water, carbon dioxide, dry extinguishing media, foam.
Precautions for firefighters and special protective clothing	Do not stay in dangerous zone without suitable chemical protecting clothes and self-contained breathing apparatus. Contain escaping vapours with water.
HAZCHEM CODE	**None Allocated**

Section 6. Accidental Release Measures

Wear protective gear as detailed in Section 8. Evacuate all unnecessary personnel. Avoid product contact and formation of vapours/aerosols. Do not inhale vapours/aerosols.

Do not allow to enter drains and water courses.

Take up with absorption media and place in container for disposal according to local regulations (see section 13).

Section 7. Handling and Storage

Precautions for Handling:

- Avoid product contact and formation of vapours/aerosols.
- Do not inhale vapours/aerosols.
- In event of vapours/aerosols wear respiratory protection, safety glasses and gloves.
- Remove soiled and soaked clothes and wash hands and face after work.

Precautions for Storage:

- Protect the product from impurity or drying up.
- Temperature in stockrooms not below -5°C and above +40°C.
- Do not store in metal containers (corrosion risk).
- Keep containers tightly closed.
- Do not store together with food and luxury food, beverage and animal feed.
- It is recommended to design stockrooms so that the product is well-protected from weather factors, solar radiation, heat up, dry up and impurities.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA ppm	TWA mg/m^3	STEL ppm	STEL 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 NOV 2023 14TH EDITION.

Engineering Controls

Use in a well-ventilated area. Ensure adequate ventilation is available to reduce exposure.

Personal Protection Equipment

Eyes	Safety glasses with side shields, chemical goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/ face protection will vary according to individual circumstances. Eye protection devices should conform to relevant regulations. Eye protection should conform to Australian/ New Zealand Standards AS/NZS 1337 (Series) – Eye Protectors for Industrial Applications.
Hands	Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or risk assessments undertaken. Occupational protective gloves should conform to relevant regulations. Reference should be made to AS/NZS 2161.1: Occupational protective gloves – Selection, use and maintenance.
Skin	Suitable protective workwear and footwear eg cotton overall button at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.
Respiratory	If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapour / mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, to make any necessary changes for individual circumstances. If spraying, respiratory protection should be worn
Hygiene	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Eyes	Wear goggles.
Hands	Use rubber or plastic gloves.
Skin	Closed working clothes.
Respiratory	Not required. Respiratory protection necessary at vapours / aerosol and wet fog formation.
Hygiene	Do not eat and drink at work. Remove immediately soiled and soaked clothes. Wash hands and face after work.

Section 9 Physical and Chemical Properties

Appearance	Aqueous solution
Colour	Brown
Odour	Product specific
Odour Threshold	Not available
pH (original state)	Approx. 9.2
pH at 16 g/l H2O and 20°C:	Approx. 9.2
Change in physical state	> 100°C evaporation of water
Boiling Point	Not available
Melting Point	Not available
Freezing Point	Not available
Flash Point	Not available
Flammability	Not available
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Vapour Density	Not available
Density (@20°C)	1.14 g/cm^3
Water Solubility(@20°C)	Fully water soluble in each ratio
Partition Coefficient:	Not available
Auto-ignition Temperature	The product is not spontaneously inflammable
Decomposition Temperature	Not available
Kinematic Viscosity	Not available
Particle Characteristics	Not available

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to Avoid	Direct solar radiation, heat up and dry up. Temperatures above +40°C.
Incompatible Materials	Strong alkaline materials, strong acid materials and strong oxidizer.
Hazardous Decomposition Products	No decomposition if correctly used. Reacts with alkalis setting ammonia free.Thermic Decomposition - Nitrous gases and ammonia.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Not applicable however after swallowing: Nausea and vomiting. After uptake of large quantities: Diarrhoea. Oral for this product = LD50 (oral): =>5000mg/kg = Non hazardous
Dermal	Not applicable.
Inhalation	After inhalation of aerosols: Slight irritations of the mucous membranes and coughing.
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.

Section 12. Ecotoxicological Information

This product is not hazardous to the environment.

Product:	
Persistence and degradability	No data available
Bioaccumulation	No data available
Mobility in Soil	No data available
Other adverse effects	Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of drinking-water supplies.

Section 13. Disposal Considerations

Disposal Method:
Dispose of according to Local Regulations.

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
This product is NOT classified as a Dangerous Good for transport under IATA or IMDG
This product is NOT classified as a Dangerous Good for transport (Road/Rail)

Section 15 Regulatory Information

This substance is NOT hazardous according to the EPA Hazardous Substances (Classification) Notice 2020.

Section 16 Other Information

Glossary

EC_{50}	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.
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 2023 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

This document has been prepared by Waikaitu Ltd and serves as the suppliers Safety Data Sheet ('SDS'). It is based on information concerning the product which is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. While Waikaitu Ltd have taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Waikaitu Ltd accept no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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

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