

Bio-Defender® (Intensive Horticulture)

Bio-Defender® (Intensive Horticulture) is a formulation that stimulates biological reactions responsible for digestion of organic residues and the direct neutralising and digestion of key odour substances which cause stress and secondary issues in intensive growing situations. This product also balances the ecosystem to enable sustainable management of fungal blooms. Stimulates digestion of hydrogen sulphide and ammonia.

Warnings: Not for human consumption. If accidental ingestion occurs, call a poison control centre. Do not use this product in any way contrary to this label. Keep away from eyes and exposed skin. If skin or eye contact occur rinse thoroughly with clean water to avoid irritation. Follow all local laws when disposing of this product. Use in a well-ventilated area. This product has a strong fermentative odour which dissipates quickly after use.

NOT TO BE USED FOR ANY PURPOSE OR IN ANY MANNER CONTRARY TO THE LABEL

Ingredients: Syrup, yeast, fruit, lemongrass oil, purified water.

Storage Instructions: Store in a shaded place until ready to use. DO NOT FREEZE. Keep container closed and free of debris when not in use. DO NOT SHAKE. Bio-Defender® (Intensive Horticulture) is a fermented product. Colour and odour may vary during storage.

Product Usage

- Designed for use in greenhouses and other intensive growing situations (including seedling nurseries, indoor fodder growing, indoor and shade tolerant plants)

Directions for Use

Application Type	Application Timing	Application Rate (Litres per 1000m ² of building floor space)	Dilution Rate (Product:Water)	Comments
Greenhouses and shaded growing areas	Regular intermittent misting	1L/ day	1:1000	<ul style="list-style-type: none">• Apply as a fine mist or fog to the space surrounding plants.• Preferred dosing interval is 1-3 minutes per hour during daylight.• For external applications, deliver in afternoon sun in calm conditions.



SAFETY DATA SHEET

VRM Prot3ct Bio-defender® (Intensive Horticulture)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier	: 280214PBIH
WHMIS Classification	: N/A
Product Use	: Probiotic odour and disease management
Manufacturer's Name	: VRM Biologik Pty Ltd
Street Address	: 22 Reward Crescent, Bohle, Queensland 4818 Australia
Phone	: +61 7 4774 6337
Date Prepared	: 16 September 2019

2. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	%	CAS Number	LD50 of Ingredient	LC50 of Ingredient
Purified Water	94.04	7732-18-5	N/A	N/A
Syrup	5.0	91722-22-4	N/A	N/A
Soap	0.4	N/A	N/A	N/A
Phosphoric Acid	0.25	7664-38-1	N/A	N/A
Vegetable Oil	0.2	84681-71-0	N/A	N/A
Potassium Humate	0.05	68514-28-3	N/A	N/A
Yeast	0.05	8013-01-2	N/A	N/A
Lemongrass Oil	0.009	8007-02-1	N/A	N/A
Citric Acid	0.001	77-92-9	N/A	N/A

3. HAZARDS IDENTIFICATION

Poisons Schedule (Australia)	: N/A
Hazard Categories	: N/A
Pictograms	: N/A
Signal Word	: N/A
Hazard Statements	: N/A

4. FIRST AID MEASURES

Contact Point	Detrimental Results	First Aid Measures
Eye Contact :	May result in mild irritation. Avoid contact with water - based contact lenses.	Rinse with water for at least 15 minutes.
Skin Contact :	Prolonged contact with concentrated liquid. May result in dryness and irritation of sensitive skin.	N/A
Ingestion /:	May cause nausea if swallowed.	Give water to drink, do not induce vomiting.
Inhalation :	None at prepared dilutions. Note: intentional concentration and inhalation of vapours may be harmful.	Remove victim to open and ventilated area.



5. FIRE FIGHTING MEASURES

Flammable Limits	: Non-Flammable
Means of Extinction	: N/A
Flash Point (Degrees C)	: N/A
Upper Flammable Limit (% by volume)	: N/A
Lower Flammable Limit (% by volume)	: N/A
Auto Ignition Temperature (Degrees C)	: N/A
Explosion Data - Sensitivity to Impact	: N/A
Explosion Data - Sensitivity to Static Discharge	: N/A
Hazardous Combustion Products	: N/A

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures	: Nil
Clean Up Procedures	: Wash area with water to prevent stickiness.
Waste Disposal Information	: Dispose to sewer or with composted material.

7. HANDLING AND STORAGE

Handling	: Avoid excessive shaking. Vent storage containers during transport.
Precautions For Safe Handling	: None
Storage	: Store away from excessive heat, avoid excessive shaking, vent storage containers during transport.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limits	: N/A
Respiratory Protection	: Exercise caution when concentration of vapour is possible.
Ventilation	: Exercise caution when concentration of vapour is possible.
Protective Gloves	: Rubber / Plastic Gloves recommended.
Eye Protection	: Safety Glasses recommended for prolonged contact with concentrated liquid (liquid is low pH) /
Other Protective Measures	: Avoid Inhalation of concentrated vapour.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	: Liquid
Odour and Appearance	: Golden Brown Colour / Fruit Fragrance
Odour Threshold	: N/A
Specific Gravity (H ₂ O=1)	: 1.05
Vapour Density (Air=1)	: As Water
Vapour Pressure (mmHg)	: As Water
Evaporation Rate: (Butyl Acetate=1)	: As Water
Boiling Point (degrees C)	: 100 degrees Celsius
Freezing Point (degrees C)	: 0 degrees Celsius
pH	: 3.1 - 3.8
Coefficient of Water/Oil Distribution	: N/A
Solubility In Water	: Liquid Soluble
Percent Volatile By Volume	: < 2%



10. STABILITY AND REACTIVITY DATA

Stability	: Some volatiles may be released when sprayed as aerosol.
Conditions To Avoid	: Excessive direct heat may damage product. Avoid Inhalation of concentrated vapour.
Materials To Avoid	: Contact with Strong Alkali products may result in exothermic reaction.
Hazardous Decomposition Products	: None
Hazardous Polymerisation	: None

11. TOXICOLOGICAL INFORMATION

Effects of Acute Exposure	: N/A
Effects of Chronic Exposure	: N/A

Irritancy of Product

Skin Sensitisation	: N/A
Respiratory Sensitisation	: N/A
Carcinogenicity-IARC	: N/A
Carcinogenicity-ACGIH	: N/A
Reproductive Toxicity	: N/A
Teratogenicity	: N/A
Embryotoxicity	: N/A
Mutagenicity	: N/A

12. ECOLOGICAL INFORMATION

Ecotoxicity	: Nil
Persistence and Degradability	: Nil
Mobility	: Nil
Other Adverse Effects	: Nil
Bioaccumulation potential	: Nil
Environmental Fate	: Nil
Environmental Impact	: Nil

13. DISPOSAL CONSIDERATIONS

General Information	: Dispose to sewer or with composted material.
Special Precautions for Landfill	: Recycle container where possible.



14. TRANSPORT INFORMATION

LAND TRANSPORT

Proper Shipping Name	: VRM prot3ct bio-defender® (Intensive Horticulture)
Class	: Non-hazardous
Subsidiary Risk(s)	: Nil
EPG	: N/A
UN Number	: N/A
Hazchem	: N/A
Pack Group	: N/A
Special Precautions for user	: Nil

SEA TRANSPORT

Proper Shipping Name	: VRM prot3ct bio-defender® (Intensive Horticulture)
Class	: Non-hazardous
Subsidiary Risk(s)	: Nil
UN Number	: N/A
Hazchem	: N/A
Pack Group	: N/A

15. REGULATORY INFORMATION

Poisons Schedule	: No Poisons Schedule number allocated.
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16. OTHER INFORMATION

For information on appropriate emergency procedures, seek medical advice.

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