

SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **RhizoVital42**
 Item Code:
 Product Use: Microbial biofertilizer, soil enhancer
 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: 1 August 2019

Section 2. Hazards Identification

This substance is NOT hazardous according to the EPA Hazardous Substances (Classification) Notice 2017

Section 3. Composition / Information on Ingredients

| Ingredients | Wt% | CAS NUMBER. |
|---------------------------|--------|-------------|
| Non-hazardous ingredients | To 100 | - |

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes: Rinse cautiously with water for 15 minutes. If eye irritation persists call doctor/physician.

If on Skin: Wash skin with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

If Swallowed: Wash out mouth 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. Call a POISON CENTER or doctor/physician 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: None known.

Treatment: Treat symptomatically.

Section 5. Fire Fighting Measures

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| Hazard Type | Non Flammable, Non-combustible material. |
| Hazards from decomposition products | Vapors cause coughing. |
| Suitable Extinguishing media | Water mist, foam, dry powder, carbon dioxide. Do not use water-jet. |
| Precautions for firefighters and special protective clothing | No special requirements. Avoid contact with oxidizing agents. Cool closed containers with water. |
| HAZCHEM CODE | None allocated |

Section 6. Accidental Release Measures

Use personal protective equipment as detailed in Section 8. Keep unnecessary and unprotected personnel from entering.

Collect as much as possible in a clean container for (preferable) reuse or disposal. Dispose of according to Local Regulations as detailed in Section 13.

Section 7. Handling and Storage

Precautions for Handling:

- Read label before use.
- No special precautions, just usual precautions with handling chemicals should be observed.

Precautions for Storage:

- Avoid contact with oxidizing agents.
- To maintain quality store <20⁰C.
- Avoid elevated temperatures.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

| Substance | TWA | | STEL | |
|-----------|-----|-------------------|------|-------------------|
| | ppm | mg/m ³ | ppm | 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 2017 9TH EDITION.

Engineering Controls

Ensure adequate ventilation.

Personal Protection Equipment

| | |
|-----------------------|--------------|
| Eyes | Not required |
| Hands and Skin | Not required |
| Respiratory | Not required |

Section 9 Physical and Chemical Properties

| | |
|---|-------------------------------|
| Appearance | Liquid (20 ⁰ C) |
| Colour | Yellow-brownish |
| Odour | Specific earthy |
| Odour Threshold | Not available |
| pH | 6.5 - 7 |
| Boiling Point | Not available |
| Melting Point | Not applicable |
| Freezing Point | Not freezing |
| Flash Point | > 100 °C |
| Flammability | The product is not flammable. |
| Upper and Lower Explosive Limits | Not available |
| Vapour Pressure | < 0.1 Pa (20°C) |
| Vapour Density | Not available |
| Density | approx. 1.03 kg/L (20°C) |
| Solubilities | Soluble in water |
| Partition Coefficient: | Not available |
| Auto-ignition Temperature | Not available |
| Decomposition Temperature | Not applicable |
| Viscosity | 12,3 mPa x s |
| Particle Size | Not available |

Section 10. Stability and Reactivity

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| Stability of Substance | This product is stable under normal conditions of storage and use. |
| Hazardous Reactions | Not reactive. |
| Conditions to Avoid | Temperature > 100°C. |
| Incompatible Materials | Avoid contact with oxidizing agents. |
| Hazardous Decomposition Products | None known. |

Section 11 Toxicological Information

Acute Effects:

| | |
|-------------------|-----------------------------------|
| Swallowed | Not applicable. LD50 = >2000mg/kg |
| Dermal | Not applicable. |
| Inhalation | Not applicable. |
| Eye | Not applicable. |
| Skin | Not applicable. |

Chronic Effects:

| | |
|------------------------------|-----------------|
| Carcinogenicity | Not applicable. |
| Reproductive Toxicity | Not applicable. |
| Germ Cell | Not applicable. |

| | |
|---------------------|-----------------|
| Mutagenicity | |
| Aspiration | Not applicable. |
| STOT/SE | Not applicable. |
| STOT/RE | Not applicable. |

Section 12. Ecotoxicological Information

This product is not hazardous to the environment.

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|---|--|
| Persistence and degradability | Biodegradable. |
| Bioaccumulation | not persistent, not bio-accumulated. |
| Mobility in Soil | Potential absorptiveness in the top organic soil layers and very little capacity to leach to lower layers. |
| Ecotoxicity | |
| Fish (<i>Oncorhynchus mykiss</i>) | 96h LC50: > 100 mg product/l |
| Invertebrate species (<i>Daphnia magna</i>) | 48h EC50: > 100 mg product/l |
| Algae (<i>Desmodesmus subspicatus</i>) | 72h EC50: > 100 mg product/l |
| Aquatic plant (<i>Lemna gibba</i>) | 07d EC50: > 100 mg product/l |

Section 13. Disposal Considerations

Disposal Method:

Triple rinse and dispose 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

Section 15 Regulatory Information

This substance is NOT hazardous according to the EPA Hazardous Substances (Classification) Notice 2017

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 |

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

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