

TRIANUM-G

Biological Fungicide



SAFETY DATA SHEET (SDS)

Last Revision: July 05, 2017

1. IDENTIFICATION

Product Name: TRIANUM-G

Other means of identification: None

Recommended Use: Biological fungicide (crop disease suppression).

PMRA Reg. No: 31503 Pest Control Products Act

Restrictions on use:

- As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.
- DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.
- DO NOT allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters.

Canadian supplier identifier:

Koppert Canada Limited
40 Ironside Cres., Unit 3
Scarborough, ON
M1X 1G4
+1 (800) 567 4195

FOR EMERGENCIES INVOLVING DANGEROUS GOODS:

Call CANUTEC's 24-hr Number
+1 (613) 996 6666

2. HAZARD IDENTIFICATION

Precautionary Statement(s): Micro-organisms may cause sensitization.

- Prevention**
 - Keep out of reach of children
 - Read label before using
 - Avoid contact with skin, eyes and clothing
 - Avoid breathing dust or spray mist
 - Wear protective gloves, protective clothing, eye protection and NIOSH respirator.
- Response**
 - IF INHALED: Move person to fresh air.
 - If experiencing respiratory symptoms call a poison center or doctor for treatment advice
 - IF ON SKIN: Wash with plenty of water for 15-20 minutes.
 - If skin irritation or rash occurs get medical attention
- Storage**
 - Keep away from sources of heat
- Disposal**
 - Dispose of contents/container to comply with applicable regulations
- Physical Hazards Not Otherwise Classified**
 - None known
- Health Hazards Not Otherwise Classified**
 - None known

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	% (w/w)
Spores from <i>Trichoderma harzianum</i> Rifai strain T22	Not Applicable	At least 1.0x10 ⁹ CFU/gram
Quartz (Crystalline Silica)	14898-60-7	<0.1 %
Non-hazardous ingredients	mixture	>97.0

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4. FIRST-AID MEASURES

First-aid measures by route of exposure:

- ⦿ **IF SWALLOWED:** Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.
- ⦿ **IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.
- ⦿ **IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.
- ⦿ **IF IN EYES:** Hold eye open and rinse slowly and gently with cool water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.
- ⦿ **Most important symptoms and effects, acute and delayed:**
 - **If inhaled:** May cause allergy symptoms or breathing difficulties. May cause irritation of mucous membranes and upper respiratory tract.
 - **If on skin:** May cause allergic skin reaction.
 - **If in eyes:** May cause mechanical irritation and possible injury.
 - **If swallowed:** None known
- ⦿ **Toxicological Information:** Treat symptomatically.

5. FIRE-FIGHTING MEASURES

- ⦿ **Suitable extinguishing media:** CO₂, foam or water jet
- ⦿ **Unsuitable extinguishing media:** None known
- ⦿ **Specific hazards arising from the hazardous product:** Contain fire-fighting water for disposal if contaminated with product
- ⦿ **Special protective equipment and precautions for fire-fighters:** Breathing apparatus and protective clothing. Minimize the amount of water used and the run-off from entering water supplies or the environment.

6. ACCIDENTAL RELEASE MEASURES

- ⦿ **Personal precautions, protective equipment and emergency procedures:** Wear protective clothing. See also Section 8.
- ⦿ **Environmental Precautions:** Do not allow product to enter sewers, ground water or any water way. Inform applicable government authority if release is reportable or could adversely affect the environment.
- ⦿ **Methods and materials for containment and cleaning up:** Cover up spillages of the product before carefully vacuuming it up. If necessary, remove the last residues with water. Dispose of contaminated material as waste according to Section 13.

7. HANDLING AND STORAGE INFORMATION

- ⦿ **Precautions for safe handling:** Prevent the formation of dust. Do not inhale dusts. Do not place in a warm environment or in direct sunlight. Read the label before use. Avoid contact with eyes, skin and clothing. Wear appropriate personal protective equipment. Wash thoroughly after use.
- ⦿ **Conditions for safe storage (including incompatible materials):** Keep dry and in the dark in robust, closed original packaging. Store this product away from food or feed.
- ⦿ **Storage temperature:** Storage between 8°C -10°C (46°F – 50°F). **Do not Freeze.**

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8. EXPOSURE CONTROL AND PERSONAL PROTECTION

Ingredients with Workplace Control Parameters:

Ingredients	CAS Number	Value/Form of Exposure	Permissible Concentration
Spores from <i>Trichoderma harzianum</i> Rifai strain T22	Not Applicable	No data available	No data available
Clay	1302-78-9	TWA TLV TWA OSHA	4 mg/m ³ inhalable 1.5 mg/m ³ respirable
Quartz (Crystalline Silica)	14808-60-7	TWA	0.025 mg/m ³

⦿ **Control parameters, including occupational exposure guidelines or biological exposure limits and the source of those values:**

The usual precautions for chemicals must be taken into account. Avoid contact with skin and eyes, prevent inhalation.

⦿ **Appropriate engineering controls:** Provide local exhaust and or adequate ventilation.

Individual protective measures:

⦿ **Respiratory protection:** Wear suitable NIOSH/MSHA approved respirator equipped with filters approved for use with biological products.

⦿ **Skin protection:** Waterproof gloves and protective clothing that is impervious under the conditions of use.

⦿ **Eye protection:** Close-fitting safety goggles. See also Section 2: Precautionary statement(s).

9. PHYSICAL AND CHEMICAL PROPERTIES

- ⦿ **Appearance:** Solid brown green granules.
- ⦿ **Odour:** Earthy odour.
- ⦿ **Odour threshold:** Not applicable.
- ⦿ **pH:** 6.64 (in 1% w/v solution in water).
- ⦿ **Melting point/Freezing point:** Not applicable.
- ⦿ **Initial Boiling point and boiling range:** Not applicable.
- ⦿ **Flash Point:** Not applicable.
- ⦿ **Evaporation rate:** Not applicable.
- ⦿ **Flammability (solid; gas):** Not applicable.
- ⦿ **Lower flammable/explosive limit:** Not applicable.

- ⦿ **Upper flammable/explosive limit:** Not applicable.
- ⦿ **Vapor Pressure:** Not applicable.
- ⦿ **Vapor Density:** Not applicable.
- ⦿ **Relative Density:** Not applicable.
- ⦿ **Solubility (Water):** Non-soluble in water, suspends in water.
- ⦿ **Solubility (other):** No data
- ⦿ **Partial coefficient (n-octanol/water):** Not applicable.
- ⦿ **Auto-ignition temperature:** No data.
- ⦿ **Decomposition temperature:** Not applicable.
- ⦿ **Viscosity:** Not applicable.

10. STABILITY AND REACTIVITY

- ⦿ **Reactivity:** Non-reactive
- ⦿ **Chemical stability:** Stable under normal conditions.
- ⦿ **Possibility of hazardous reactions:** No dangerous reactions known.
- ⦿ **Conditions to avoid:** Avoid exposure to sources of heat.
- ⦿ **Incompatible materials:** Strong acids and oxidizing agents.
- ⦿ **Hazardous decomposition products:** Oxides of carbon

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11. TOXICOLOGICAL INFORMATION

- ◉ **Likely Routes of Exposure:** Skin, ingestion, and inhalation.
- ◉ **Acute Toxicity of Product:**
 - **Acute oral toxicity:** LD₅₀ (rat) > 1.0 x 10⁷ CFU/animal
 - **Acute inhalation:** LD₅₀ (rat) > 1.2 x 10⁷ CFU/animal
 - **Acute intraperitoneal:** LD₅₀ (rat) > 6.4 x 10⁶ CFU/animal
 - **Intravenous:** LD₅₀ (rat) > 1.0 x 10⁷ CFU/animal
- ◉ **Delayed and Immediate Effects:**
- ◉ **Inhalation:** May cause irritation of mucous membranes and upper respiratory tract.
 - **Skin contact:** No skin irritation expected
 - **Eye contact:** Direct contact may cause eye irritation and possible injury.
 - **Ingestion:** The product is not expected to cause any effects due to ingestion.
- ◉ **Respiratory or skin sensitization:** May cause sensitization by inhalation or skin contact.
- ◉ **Aspiration Hazard:** None known.
- ◉ **Chronic Effects:** None known
- ◉ **Carcinogenicity:** No ingredient in this product is equal to or greater to 0.1% is identified as a carcinogen or potential carcinogen by IARC, OSHA, NTP or ACGIH.
- ◉ **Mutagenicity:** No data
- ◉ **Reproductive effects:** No data
- ◉ **Other information:** None known

12. ECOLOGICAL INFORMATION

- ◉ **Ecotoxicity:**
 - **Algae (72 h. NOEC) :** NOEC: > 6.5 x 10⁷ CFU/L
 - **Daphnia (21 d. NOEC) :** NOEC: > 6.0 x 10⁷ CFU/L
 - **Fish (30 d. NOEC) :** NOEC: > 6.0 x 10⁷ CFU/L
- ◉ **Persistence and degradability:** Trichoderma occurs naturally in the soil.
- ◉ **Bioaccumulative potential:** Estimated half-life of conidia spores in water amounts to 5.5 weeks.
- ◉ **Mobility in soil:** No data available.
- ◉ **Other adverse effects:** None known

13. DISPOSAL CONSIDERATIONS

- ◉ **Container Disposal:** Non-refillable container. Do not reuse. Thoroughly empty the contents of the container into the application device or medium. Make container unsuitable for further use. Dispose of container in accordance with provincial requirements.
- ◉ **Waste Disposal:** For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

14. TRANSPORTATION INFORMATION

- ◉ **TDG Classification:** Not classified in regard to transportation by ADR/RID, IMDG, IMO and IATA.

15. REGULATORY INFORMATION

- ◉ **PMRA REG. No:** 31503 Pest Control Products Act.
- ◉ **Risk phrases:** Potential sensitizer. Live organism.
- ◉ **Supplementary regulations, restrictions and prohibitions:** All micro-organisms may have the potential to provoke sensitising reactions. To avoid risk for man and the environment, comply with instructions for use.
- ◉ **WHMIS Classification:** This product is registered under the *Pest Control Product Act* and is exempt from the requirements of WHMIS.
- ◉ **Domestic Substance List (DSL):** All chemical ingredients are listed on the DSL.

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16. OTHER INFORMATION

Revised by: Koppert Canada Limited (Section 1)

Date Issued: June 27, 2017

- ⦿ Recommendations presented in this safety information sheet apply only to the product as originally supplied. If other ingredients are used in the processing of this product, the recommendations for the use and handling of that product must be verified.
- ⦿ This document contains important information in order to ensure the safe storage, handling and use of this product. The information in this document must be brought to the attention of the safety/health/environmental advisor within your organisation. The information in this document must be made known to everyone whose work involves this product.
- ⦿ The data is based on current expertise and presents the health, safety and environmental aspects of this product. They form no guarantee of product properties.