

## TRIANUM P

Last revision: 04/06/2015, version 5.3

Page 1 / 5

### 1 IDENTIFICATION

- **Product name:** TRIANUM P
- **Use of the substance or preparation:** Biological fungicide
- **Registered by:** Koppert Biological Systems, Inc.
- **Address:** 1502 Old US 23, Howell, Michigan 48843
- **Telephone number / Fax:** For general information on product use, etc., call the National Pesticides Information Center at 1-800-858-7378
- **Telephone number for emergencies:** Poison Control Center 1-800-222-1222

### 2 HAZARD(S) IDENTIFICATION

- **Danger category and abbreviation:** No symbol assigned
- **Dangers to the health of humans and the environment:** Causes moderate eye irritation and can cause allergic sensitization.
- **Classification system:** The classification corresponds with the US EPA Toxicity Category per 40 CFR §156.62.
- **Supplementary information:** Wear protective eyewear. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

### 3 COMPOSITION/INFORMATION ON INGREDIENTS

- **Active micro-organism:** Formulation of spores from *Trichoderma harzianum* Rifai strain KRL-AG2 ( at least  $1 \times 10^7$  colony forming units per gram dry weight)
- **Others ingredients:** >96% inert ingredients

### 4 FIRST-AID MEASURES

- **Symptoms /effects:** Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.
- **In case of inhalation:** Move the person outside for fresh air; in the event of physical complaints arising, seek medical advice.
- **After contact with skin:** Rinse the skin with soap and water. In the event of persistent skin irritation, seek medical advice.
- **In case of contact with eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing.
- **If swallowed:** Call a poison control center or doctor for treatment advice.

## TRIANUM P

Last revision: 04/06/2015, version 5.3

Page 2 / 5

### **5** FIRE-FIGHTING MEASURES

- **Suitable extinguishing agents:** CO<sub>2</sub>, foam or water jet
- **Unsuitable extinguishing agents:** Not applicable
- **Protective equipment:** Breathing apparatus and protective clothing.
- **Supplementary information:** The product is non-flammable.

### **6** ACCIDENTAL RELEASE MEASURES

- **Personal precautions:** Wear protective clothing. See also Section 8.
- **Environmental precautions:** Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash water.
- **Cleaning methods:** Cover up spillages of the product before carefully vacuuming it up. If necessary, remove the last residues with water. Dispense of rinsing water via the sewage system.
- **Supplementary information:** Can be mixed into the soil

### **7** HANDLING AND STORAGE

- **Handling** Prevent the formation of dust  
Do not place in a warm environment or in direct sunlight. Read the label before use.
- **Preventing fire and explosion:** No special measures required (see section 10)  
The product is non-flammable.
- **Storage:** Store in original container under refrigerated conditions. Short periods at room temperatures above 75°F will not affect performance. Do not store near food or feed commodities. Keep container tightly closed when not in use.

### **8** EXPOSURE CONTROLS/PERSONAL PROTECTION

- **Measures for the control of exposure:** The usual precautions as for chemicals must be taken into account.  
Avoid contact with skin and eyes. Follow manufacturer's directions for cleaning/maintaining personal protective equipment (PPE). If no such instructions for washables, use detergent and hot water. Keep and wash PPE from other laundry.

## TRIANUM P

Last revision: 04/06/2015, version 5.3

Page 3 / 5

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| <ul style="list-style-type: none"> <li>• <b>Protection of the respiratory organs:</b></li> <li>• <b>Protection of the hands:</b></li> <li>• <b>Protection of the eyes:</b></li> <li>• <b>Protection of the skin:</b></li> </ul> | <p>Mixer/loaders and applicators must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95.</p> <p>Safety gloves. The material from which the gloves are made must be impermeable and resistant to the product. Choose glove material on the basis of the permeation time, degrees of permeability and breakdown rate.</p> <p>Close-fitting safety goggles.</p> <p>Wear suitable protective clothing.</p> |
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### **9** PHYSICAL AND CHEMICAL PROPERTIES

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| <ul style="list-style-type: none"> <li>• <b>General information</b> <ul style="list-style-type: none"> <li><b>Appearance:</b></li> <li><b>Colour:</b></li> <li><b>Smell:</b></li> </ul> </li> <li>• <b>pH:</b></li> <li>• <b>Phase transitions</b> <ul style="list-style-type: none"> <li><b>Melting point/range:</b></li> <li><b>Boiling point/range:</b></li> </ul> </li> <li>• <b>Flash point:</b></li> <li>• <b>Flammability:</b></li> <li>• <b>Explosive properties:</b></li> <li>• <b>Oxidising properties:</b></li> <li>• <b>Relative density at 20°C:</b></li> <li>• <b>Solubility in water:</b></li> </ul> | <p>Small granules</p> <p>Green beige</p> <p>Odourless</p> <p>6.94 (in 1% w/v solution in water)</p> <p>Not applicable</p> <p>Not applicable</p> <p>Not applicable</p> <p>No spontaneous ignition</p> <p>Non-explosive</p> <p>Non-oxidising</p> <p>pour density 0.0448 g/mL; tap density 0.496 g/mL</p> <p>Soluble in water, suspensibility 99.12%</p> |
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### **10** STABILITY AND REACTIVITY

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| <ul style="list-style-type: none"> <li>• <b>Thermal decomposition / Conditions to be avoided:</b></li> <li>• <b>Materials to be avoided:</b></li> <li>• <b>Dangerous reactions:</b></li> <li>• <b>Dangerous decomposition products:</b></li> </ul> | <p>Stable for 6 months when stored in the fridge (section 7).</p> <p>Strong acids. Avoid contact with sources of heat</p> <p>No dangerous reactions known</p> <p>not applicable</p> |
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### **11** TOXICOLOGICAL INFORMATION

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| <ul style="list-style-type: none"> <li>• <b>Acute oral toxicity:</b></li> <li>• <b>Acute inhalation:</b></li> <li>• <b>Acute intraperitoneal:</b></li> <li>• <b>Intravenous:</b></li> <li>• <b>Skin irritation:</b></li> <li>• <b>Eyes irritation:</b></li> </ul> | <p>LD<sub>50</sub> (rat) &gt; 1.0 x 10<sup>7</sup> CFU/animal</p> <p>LD<sub>50</sub> (rat) &gt; 1.2 x 10<sup>7</sup> CFU/animal</p> <p>LD<sub>50</sub> (rat) &gt; 6.4 x 10<sup>6</sup> CFU/animal</p> <p>LD<sub>50</sub> (rat) &gt; 1.0 x 10<sup>7</sup> CFU/animal</p> <p>Not irritant</p> <p>Not irritant</p> |
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## TRIANUM P

Last revision: 04/06/2015, version 5.3

Page 4 / 5

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| <ul style="list-style-type: none"> <li>• <b>Sensitisation:</b></li> <li>• <b>Chronic effects:</b></li> </ul> | <p>May cause sensitisation by inhalation and/or skin contact.</p> <p>None of the components is known as carcinogenic; does not contain dangerous goods. Not classified by NTP, IARC or OSHA. Non infective and not pathogenic in rat.</p> |
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### 12 ECOLOGICAL INFORMATION

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| <ul style="list-style-type: none"> <li>• <b>Behaviour in environmental media:</b></li> <li>• <b>Mobility and bio-accumulation potential:</b></li> <li>• <b>Ecotoxic effects:</b></li> <li>• <b>Algae (72h. NOEC):</b></li> <li>• <b>Daphnia (21d. NOEC):</b></li> <li>• <b>Fish (30d. NOEC):</b></li> <li>• <b>General information:</b></li> </ul> | <p>Trichoderma occurs naturally in the soil.</p> <p>Estimated half-life of conidia spores in water amounts to 5.5 weeks.</p> <p>NOEC: &gt; 6.5 x 10<sup>7</sup> CFU/L</p> <p>NOEC: &gt; 6.0 x 10<sup>7</sup> CFU/L</p> <p>NOEC: &gt; 6.0 x 10<sup>7</sup> CFU/L</p> <p>Neither acute nor chronic effects are known</p> |
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### 13 DISPOSAL CONSIDERATIONS

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| <ul style="list-style-type: none"> <li>• <b>Disposal of product:</b></li> <li>• <b>Packaging not cleaned:</b></li> <li>• <b>See Trianum P Label for complete Storage and Disposal instructions.</b></li> </ul> | <p>Remove in accordance with local and state regulations. Do not contaminate food or feed by disposal.</p> <p>Do not reuse or refill this container. Completely empty bag into the application equipment by shaking and tapping sides and bottom to loosen clinging particles, then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration.</p> |
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### 14 TRANSPORTATION INFORMATION

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| <ul style="list-style-type: none"> <li>• <b>Transport information:</b></li> </ul> | <p>not classified in regard to transportation by ADR/RID, IMDG, IMO and IATA.</p> |
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### 15 REGULATORY INFORMATION

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| <ul style="list-style-type: none"> <li>• <b>Label name:</b></li> <li>• <b>US EPA Registration Number:</b></li> <li>• <b>Safety recommendations:</b></li> <li>• <b>Supplementary regulations, restrictions</b></li> </ul> | <p>Trianum P</p> <p>8965-3</p> <p>S36/37/39 Wear suitable protective clothing and gloves</p> <p>All micro-organisms may have the potential to</p> |
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## TRIANUM P

Last revision: 04/06/2015, version 5.3

Page 5 / 5

**and prohibitions:**

provoke sensitizing reactions. To avoid risk for man and the environment, comply with instructions for use.

### **16 OTHER INFORMATION**

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 the current expertise and presents the health, safety and environmental aspects of this product. They form no guarantee of product properties.