

Material Safety Data Sheet

(according to 2001/58/EC)



ENZICUR

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1 IDENTIFICATION OF SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

- **Product details**
- **Trade name:** ENZICUR
- **Application of the substance / the preparation:** Fungicide
- **Supplier:** Koppert B.V.
Veilingweg 14-17
2651 BE Berkel en Rodenrijs
- **Telephone:** +31 (0)10-5140444
- **Fax:** +31 (0)10-5115203
- **E-mail:** info@koppert.nl
- **Website:** www.koppert.com
- **Emergency information:** +31 (0)10-5140444

2 COMPOSITION / DATA ON COMPONENTS

- **Components:** Fungicide with two active ingredients potassium iodide and potassium thiocyanate. Other components are malic acid, sodium percarbonate and enzymes.
- **Additional information:** Malic acid and sodium percarbonate may cause irritation to skin and eyes. A small percentage of the population may exhibit an allergic reactions to enzymes.

3 HAZARDS IDENTIFICATION

- **Hazard designation:** Xn: Harmful
O: Oxidizing
- **Information pertaining to particular danger for man and environment:** R8: Contact with combustible material may cause fire.
R37/38: Irritating to eyes and skin.
R42/43: May cause sensitization by inhalation and skin contact.
- **Classification system:** The classification is in line with current EC guideline.
- **Additional information:** -

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4 FIRST AID MEASURES

- **Symptoms / effects:** Exposure to product does not cause any acute symptoms.
- **Inhalation:** Move person to fresh air and keep warm.
- **Skin contact:** Rinse thoroughly with water. Take off contaminated clothing.
- **Eye contact:** Rinse opened eye for several minutes (~15 minutes) under running water. If symptoms persist, consult doctor.
- **Ingestion:** Rinse mouth with water. Do not drink water or any other liquid. Do not induce vomiting. Seek medical advice immediately.

5 FIRE FIGHTING MEASURES

- **Suitable extinguishing agents:** Use large amounts of water.
- **Unsuitable extinguishing agents:** None.
- **Protective equipment:** All usual equipment allowed; fire fighters should wear appropriate protective equipment.
- **Remark:** When using the product, constituents of the three packages are directly mixed with water. This presents no fire or explosion hazards. In case the contents of three packages accidentally get into contact with each other in dry form, large amounts of water should be used to dilute mixture and prevent the hazards of the individual constituents.

6 ACCIDENTAL RELEASE MEASURES

- **Person-related safety precautions:** For personal precautions see chapter 8.
- **Measures for environmental protection:** The components of ENIZUCR do not give rise to environmental concern. Moreover, most of them occur in the environment.
- **Measures for cleaning / collecting:** Wastes resulting from the use of this product may be disposed of as normal waste material if properly cleaned with water.
- **Additional information:** If the contents of the three packages accidentally get into contact with each other in dry form, large amounts of water should be used to dilute the mixture and prevent the hazards of the individual constituents.

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7 HANDLING AND STORAGE

- **Handling:** Read the label before use. Wear proper gloves.
- **Information about protection against explosions and fires:** When using the product, the constituents of the three packages are directly mixed with water. This presents no fire and explosion hazards.
- **Storage:** Store in a cool and dry location (4-10°C).

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

- **Exposure limits:** The TLV (Threshold Limit Value) for sodium percarbonate and potassium iodide is 10 mg/m³.
- **Personal protection:**
 - ❖ **respiratory** No respiratory protection necessary.
 - ❖ **hand** During the preparation and the application of the spray protective gloves should be worn.
 - ❖ **Eyes** No eye protection necessary.
 - ❖ **Skin and body** During the preparation and the application of the spray protective clothing and gloves should be worn.

9 PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance** Powder(s).
- **Colour** Cream.
- **Odour** Odourless to slight odour.
- **Flash point** Does not flash, solid, non volatile constituents.
- **Auto-ignition temperature** Not applicable.
- **Explosion / flammability** No explosive properties, not flammable.
- **Density** Not applicable.
- **Solubility in water** Soluble in water.

10 STABILITY AND REACTIVITY

- **Stability:** Stable when kept dry and cool. Avoid contact with water (except in case of fire).
- **Materials to avoid:** Malic acid is incompatible with oxidizing agents, bases, alkali metals and amines. Potassium iodide is incompatible with

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diazonium salts, diisopropyl peroxydicarbonate, oxidants, bromine and chlorine trifluorides, fluorine perchlorate, calomel, potassium chlorate, metallic salts, tartaric and other acids.
Sodium percarbonate should not be in contact with water (except in case of fire), ignition sources, organic materials, heavy metal ions, alkali, acids, reducing agents.

- **Conditions to avoid:**
- **Hazardous decomposition products:**

Keep away from heat and heat sources.

Malic acid and the enzymes may form carbon dioxide and carbon monoxide when heated to decomposition.
Potassium thiocyanate may produce nitrogen oxides, sulfur compounds and cyanides when burning; potassium iodide may form oxides of the contained metal and free or ionic halogen. Sodium percarbonate may produce oxygen on decomposition.

11 TOXICOLOGICAL INFORMATION

- **Basis for assessment:** Information given is based on component data. The concentrations of the individual components in the product are so low that they are below the concentration limits for labeling, as mentioned in the EC Directive for Dangerous Substances and Preparations (99/45/EC).
- **Acute toxicity oral:** Large doses of potassium iodide or sodium percarbonate may cause irritation to the gastrointestinal tract.
The oral LD50-mouse of malic acid is 1600 mg/kg; the oral LD50-mouse of potassium iodide is 1862 mg/kg; the oral LD50-rat of potassium thiocyanate is 854 mg/kg and the oral LD50-rat of sodium percarbonate is 1900-3000 mg/kg. There are no data on the enzymes.
- **Acute toxicity dermal:** The dermal LD50-rat of potassium iodide >2000 mg/kg bw; the dermal LD50-rat of potassium thiocyanate >2000 mg/kg bw.
- **Acute inhalatoir toxicity:** Malic acid, potassium thiocyanate, potassium iodide and sodium percarbonate (LC50-rat =

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- **Skin irritation:**

4.58 mg/L) can cause irritation of the respiratory tract.
A small percentage of the population may exhibit an allergic reaction to the enzymes, by sensitization through inhalation.

Malic acid, potassium thiocyanate, potassium iodide and sodium percarbonate can cause skin irritation.
A small percentage of the population may exhibit an allergic reaction to the enzymes, by sensitisation through dermal contact.
- **Eye irritation:**

Malic acid, potassium thiocyanate, potassium iodide and sodium percarbonate cause eye irritation. There are no data on the enzymes.
- **Skin sensitisation:**

A small percentage of the population may exhibit an allergic reaction to the enzymes, by sensitisation through dermal contact.
- **Chronic effects:**

Chronic oral exposure to iodine containing compounds and thiocyanate affect the functioning of the thyroid.
None of the components of ENZICUR are known carcinogens; they are not classified by NTP, IARC or OSHA.
Chronic exposure to iodine containing compounds and thiocyanate may have adverse effects during pregnancy.
The constituents of ENZICUR are not mutagenic or no information is available.

12 ECOLOGICAL INFORMATION

- **Basis for assessment:**

The data given is based on the separate components.
- **Mobility:**

No data available.
- **Persistence / degradability:**

Readily biodegradable (based on separate components).
- **Bioaccumulation:**

No data available.
- **Acute toxicity aquatic organisms:**

The toxicity of potassium iodide and

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potassium thiocyanate in aquatic organisms is low.

13 DISPOSAL CONSIDERATIONS

- **Precautions:** The constituents of ENZICUR do not give rise to environmental concern. Moreover, most of them are naturally occurring in the environment.
- **Product disposal:** Wastes resulting from the use of this product may be disposed of as normal waste material if properly cleaned with water.
- **Contaminated packaging:** Dilute with water and flush away.

14 TRANSPORT INFORMATION

- Not dangerous according to ADR/RID, IMO and IATA/ICAO.

15 REGULATORY INFORMATION

- **Label name:** ENZICUR
- **Symbol(s):** Xn: Harmful
O: Oxidizing
- **R(isk) phrase(s):** R8: Contact with combustible material may cause fire.
R37/38: Irritating to eyes and skin.
R42/43: May cause sensitization by inhalation and skin contact.
- **S(afety) phrase(s):** S17: Keep away from combustible material.
S21: When using do not smoke.
S23: Do not breathe spray.
S35: This material and its container must be disposed of in a safe way.
S36/37: Wear suitable protective clothing and gloves.
S45: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).

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16 OTHER INFORMATION

This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process.

This document contains important information regarding a safe disposal, handling and use of this product. The information should be brought to the attention of the health / safety / environment-consultant of your organisation. The information from this document should be announced to anyone working with this product. The information is to our best present knowledge correct and complete and is given in good faith but without warranty. It remains to the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.