



## Material Safety Data Sheet (MSDS)

### Hesi PowerZyme

Date of issue: 20-06-2017  
In accordance with: Commission Regulation (EU) No 453/2010  
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#### 1. Identification of the substance/mixture and of the company/undertaking.

##### *Identification of the substance or preparation:*

Catalogue No.: HE39 - HE43  
Product name: Hesi PowerZyme  
Identification of the product: Liquid formulation containing extracts of cellulase from Trichoderma Viride for use in the conditioning of all plant substrates. Only to be used as soil amendment. (Text on label: Enzyme extracts for plants. Breaks down wastes of cellulose in the plant medium).

##### *Identification of the company:*

Hesi Plantenvoeding B.V.  
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6468 EP Kerkrade  
The Netherlands  
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Fax 0031 - (0) 45 569 04 21  
E-mail: [info@hesi.nl](mailto:info@hesi.nl)  
Website: [www.hesi.nl](http://www.hesi.nl)

Contact Hesi: Mr. Henk Ijpelaar, e-mail: [sales@hesi.nl](mailto:sales@hesi.nl)

Responsible for the MSDS: Mrs. Siglinde Winkler, e-mail: [research@hesi.nl](mailto:research@hesi.nl)

##### Emergency telephone No.:

##### Medical emergency number:

Most of Europe, incl. UK: 112  
In the United Kingdom it can also be 999.  
USA & Canada: 911  
Australia: 000.

##### National Poisons Information Service (UK) for the public:

In England and Wales (NHS Direct) tel. 0845 4647.  
In Scotland (NHS 24) tel. 08454 242424

##### Poisons Service, only for healthcare professionals:

For the UK: NPIS tel. 0844 892 0111  
For Ireland: NPIC tel. (01) 809 2566

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### 2. Hazards identification.

Hesi PowerZyme is not subject to Directive 1999/45/EC and Directive 67/548/EEC, their amendments and their annexes.

Hazard symbol:	None
Classification:	Not classified as hazardous.
Emergency overview:	Wash hands after contact and before eating and drinking. Do not eat, drink or smoke, while working with the substance. Store in original container. Do not empty into groundwater. Avoid contact with the substance and prolonged or repetitive exposure.
Environmental risks:	PowerZyme is not considered to be hazardous to the environment.
Potential health effects:	Usually not a problem. In case of symptoms, contact a physician. Treat symptomatically. Hesi PowerZyme contains extracts of cellulase from Trichoderma Viride.

For more information about hazards, see section 4, 8 and 10-12.

### 3. Composition/information on ingredients.

	CAS-Number	EC-Nr.	Classification*	%Weight:
Celluclast 1.5L FG	9012-54-8	232-734-4	Xn, R42	10-20%
Potassium sorbate	24634-61-5	246-376-1	Xi, R36/38	0,1%

*\*The complete text of the mentioned R-sentences can be found in section 16.*

### 4. First aid measures.

After inhalation:	Usually not a problem. Remove to fresh air, if necessary.
After skin contact:	Wash off with soap and water. Remove contaminated clothing and shoes. If irritations develop, contact a physician.
After eye contact:	Rinse eyes out with plenty of water for at least 15 minutes. Contact a physician if irritations develop.
After swallowing:	Treat symptomatically if necessary. If swallowed by pets, contact a veterinarian immediately and show this MSDS.

### 5. Fire-fighting measures.

Suitable extinguishing media:	Water, dry chemicals, carbon dioxide and foam.
Unsuitable extinguishing media:	None
Special hazards:	None
Advice for fire-fighters:	Special protective equipment for fire fighting is necessary due to packaging (risk of burns and severe smoke): use self-contained breathing apparatus and protective clothing. Prevent fire-fighting water from entering surface water or groundwater.



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### 5. (Continued).

Other information:	Hesi Phosphorus Plus is not flammable and doesn't produce hazardous fumes. The original containers are made of PE (polyethylene) and can melt and drip in case of fire (risk of burns). PE is flammable (due to flammable gas in case of heating) and can cause (severe) smoke. Hesi PowerZyme contains extracts of cellulase from Trichoderma Viride. Avoid contact with the substance in case of sensitivity.
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### 6. Accidental release measures.

Personal precautions:	Usually not necessary.
Environmental precautions:	Do not allow to enter sewerage or groundwater. Inform the water manager immediately in case of contamination of sewerage systems or surface water with large amounts of the substance. Contains no NPK.
Procedures for cleaning / absorption:	Absorb with liquid-binding material and forward for disposal. Dispose contaminated material as waste according to section 13. Clean affected area after complete removal of substance. Small releases should not pose any danger to the local environment.

For more information about precautions see sections 8 and 13 and see section 12 for more information about the environment.

### 7. Handling and storage.

Handling:	Wash hands after contact and before eating and drinking. Do not eat, drink or smoke while working with substance. Avoid contact with the substance and prolonged or repetitive exposure. Do not empty into groundwater. Keep in original container.
Storage:	Do not recast, but store tightly closed in original container (PE = polyethylene), between 5°C and 45°C. Do not contaminate water, food or feed by storage or disposal. Keep out of reach of children and pets. Protect the packaging against direct sunlight. Avoid freezing.
Specific end use(s):	Liquid formulation containing extracts of cellulase from Trichoderma Viride for use in the conditioning of all plant substrates. Dosage: 2ml PowerZyme to 1 litre of water. Can be combined with other Hesi fertilizers, for example Root Complex, SuperVit and TNT Complex (and other Hesi products).

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### 8. Exposure controls / personal protection.

*Control parameters:*

Name: Hesi PowerZyme  
Exposure limit value: No exposure limit values established.

*Personal protective equipment:*

Appropriate engineering controls: Not required.  
Individual protection measures: Do not eat, drink or smoke while working with the substance. Avoid contact with the substance and prolonged or repetitive exposure.  
Respiratory protection: Not required.  
Eye protection: Not required.  
Hand protection: Gloves are not required, but are always advised while working with chemicals. Wash hands after contact and before eating and drinking.  
Other protective equipment: No special precautions necessary.  
Industrial hygiene: Wash hands after contact and before eating and drinking. Do not eat, drink or smoke while working with the substance. Do not empty into groundwater.

### 9. Physical and chemical properties.

Physical state: Liquid  
Colour: Tan  
Odour: Soapy  
pH: 5,5  
Melting point/freezing point: No data available  
Boiling point: 100 °C  
Flash point: Not flammable  
Explosive limits lower: No data available  
upper: No data available  
Vapour pressure: Equivalent to water  
Vapour density: Equivalent to water  
Relative density: 0,9938 g/cm<sup>3</sup>  
Solubility in water: 99% (aqueous product)  
Viscosity: No data available

### 10. Stability and reactivity.

Chemical stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.  
Possibility of hazardous reactions: None  
Hazardous polymerisation: Will not occur.  
Conditions to avoid: Recasting (keep in original container), heating and freezing (excessive temperature fluctuations, below 0°C and above 45°C)

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### 10. (Continued).

Incompatible materials:	Strong acids or alkaline compounds can deactivate the effect of the substance. Do not keep in metal containers.
Hazardous reactions with:	None
Hazardous decomposition products:	None

### 11. Toxicological information.

Acute toxicity:	LD50 is not available / determined.
<i>The following assessment of the health hazards is based on an assessment of the various components of the product.</i>	
After inhalation:	Not usually a problem.
After skin contact:	Not usually a problem.
After eye contact:	Not usually a problem.
After swallowing:	Not usually a problem.
Further data:	Hesi PowerZyme is not classified as a hazardous substance. The product contains extracts of cellulase from <i>Trichoderma Viride</i> . Prolonged exposure or hypersensitivity may cause an irritation or sensitization, as with each substance may be the case. The chances of this happening are very slim.

### 12. Ecological information.

Ecotoxic effects:	Do not allow material to be released to the environment without proper governmental permits. May be hazardous for drinking supplies. It is not to be expected that the composition will pose a hazard to the environment. No data available on toxicity, specific to soil organisms, plants and terrestrial animals. Contains no NPK.
Aquatic toxicity:	No data available on direct toxicity to fish.
Persistence and degradability:	The composition is expected to be rapidly degradable. No data available on biodegradation.

### 13. Disposal considerations.

Product:	Substance must be disposed of in compliance with the respective national regulations. Do not allow wastewater to be released into sewerage systems or surface water without the proper governmental permits.
Packaging:	The packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system. The original containers are made of PE (polyethylene).

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**Hesi PowerZyme****14. Transport information.**

Hesi PowerZyme is not classified as a hazardous substance.

Therefore no special transport regulations are applicable.

Any relevant local regulations concerning transport should be observed.

The transport regulations are cited according to international regulations and in the form applicable in the Netherlands. Possible national deviations in other countries are not considered.

**15. Regulatory information.**

Labelling according to EC Directives:

Hazard symbol: None

Classification: Not classified as hazardous.

R-phrases (risk statements): None

S-phrases (safety statements): S2 Keep out of reach of children.  
S20/21 When using do not eat, drink or smoke.

Labelling according to GHS (Globally Harmonised System of Classification and Labelling of Chemicals):

H-phrases (hazard statements): None

P-phrases (precautionary statements): P102 Keep out of reach of children.  
P270 Do not eat, drink or smoke when using this product.  
P273 Avoid release to the environment.

Hesi PowerZyme is not classified as a hazardous substance.

**16. Other information.**

***The complete text of the mentioned H and R-sentences in section 3:***

R36/38 Irritating to eyes and skin.

R42 May cause sensitization by inhalation.

***History***

Previous version: MSDS Hesi PowerZyme EN 13-06-2016

Adjustments: Correction relative density in chapter 9

The information contained herein is based on the present state of knowledge and experience. The MSDS describes the product with regard to the safety precautions. These data are no guarantee of product properties. It is the obligation of the user to use this product with care and to observe the applicable laws and regulations. Hesi Plantenvoeding B.V. disclaims any responsibility for loss or damage arising from use of these data.

MSDS in accordance with Regulation (EC) No.1907/2006 of the European Parliament and of the Council of 18 December 2006 on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

**Annex**

At the time of preparation of this MSDS there have not yet been registered any safety reports for this mixture under Regulation (EC) No.1907/2006.