

**Caspofungin Formulation**

|         |                |             |                                 |
|---------|----------------|-------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 06.07.2024  |
| 7.0     | 14.04.2025     | 24303-00028 | Date of first issue: 21.10.2014 |

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name : Caspofungin Formulation

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Use of the Sub-  
stance/Mixture : Pharmaceutical

Recommended restrictions  
on use : Not applicable

**1.3 Details of the supplier of the safety data sheet**

Company : MSD  
117 16th Road  
1685 Halfway house, Midrand, South Africa

Telephone : +27 11 655 3000

E-mail address of person  
responsible for the SDS : EHSDATASTEWARD@msd.com

**1.4 Emergency telephone number**

+1-908-423-6000

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**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

|  |   |
|--|---|
| Serious eye damage, Category 1                 | H318: Causes serious eye damage.                            |
| Effects on or via lactation                    | H362: May cause harm to breast-fed children.                |
| Short-term (acute) aquatic hazard, Category 1  | H400: Very toxic to aquatic life.                           |
| Long-term (chronic) aquatic hazard, Category 1 | H410: Very toxic to aquatic life with long lasting effects. |

**2.2 Label elements****Labelling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :



Signal word : Danger

Hazard statements : H318 Causes serious eye damage.

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H362 May cause harm to breast-fed children.  
 H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :

**Prevention:**

P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P260 Do not breathe dust.  
 P273 Avoid release to the environment.  
 P280 Wear eye protection/ face protection.

**Response:**

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.  
 P391 Collect spillage.

Hazardous components which must be listed on the label:

Caspofungin  
 Acetic acid

**2.3 Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Contact with dust can cause mechanical irritation or drying of the skin.

May form explosive dust-air mixture during processing, handling or other means.

**SECTION 3: Composition/information on ingredients****3.2 Mixtures****Components**

| Chemical name | CAS-No.<br>EC-No.<br>Index-No.<br>Registration number | Classification   | Concentration<br>(% w/w) |
|---------------|---|--|--------------------------|
| Caspofungin   | 179463-17-3   | Eye Dam. 1; H318<br>Lact.H362<br>Aquatic Acute 1;<br>H400<br>Aquatic Chronic 1;<br>H410<br><br>M-Factor (Acute aquatic toxicity): 10<br>M-Factor (Chronic aquatic toxicity): 1 | >= 30 - < 50             |
| Acetic acid   | 64-19-7<br>200-580-7<br>607-002-00-6                  | Flam. Liq. 3; H226<br>Skin Corr. 1A;<br>H314   | >= 1 - < 3               |

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|  |  |                  |  |
|--|--|------------------|--|
|  |  | Eye Dam. 1; H318 |  |
|--|--|------------------|--|

For explanation of abbreviations see section 16.

**SECTION 4: First aid measures****4.1 Description of first aid measures**

- |                            |   |  |
|----------------------------|---|--|
| General advice             | : | In the case of accident or if you feel unwell, seek medical advice immediately.<br>When symptoms persist or in all cases of doubt seek medical advice.                         |
| Protection of first-aiders | : | First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).    |
| If inhaled                 | : | Get medical attention.   |
| In case of skin contact    | : | Wash with water and soap.<br>Get medical attention.  |
| In case of eye contact     | : | In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.<br>If easy to do, remove contact lens, if worn.<br>Get medical attention immediately. |
| If swallowed               | : | Get medical attention.   |

**4.2 Most important symptoms and effects, both acute and delayed**

- |       |   |  |
|-------|---|--|
| Risks | : | Contact with dust can cause mechanical irritation or drying of the skin.<br><br>Causes serious eye damage.<br>May cause harm to breast-fed children. |
|-------|---|--|

**4.3 Indication of any immediate medical attention and special treatment needed**

- |           |   |   |
|-----------|---|---|
| Treatment | : | Treat symptomatically and supportively. |
|-----------|---|---|

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

- |                                |   |  |
|--------------------------------|---|--|
| Suitable extinguishing media   | : | Water spray<br>Alcohol-resistant foam<br>Carbon dioxide (CO <sub>2</sub> )<br>Dry chemical |
| Unsuitable extinguishing media | : | None known.  |

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### 5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.  
Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides

### 5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.  
Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.  
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

### 6.2 Environmental precautions

Environmental precautions : Avoid release to the environment.  
Prevent further leakage or spillage if safe to do so.  
Retain and dispose of contaminated wash water.  
Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Sweep up or vacuum up spillage and collect in suitable container for disposal.  
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).  
Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.  
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

- Technical measures : Static electricity may accumulate and ignite suspended dust causing an explosion.  
 Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
- Local/Total ventilation : Use only with adequate ventilation.
- Advice on safe handling : Avoid contact during pregnancy and while nursing.  
 Do not breathe dust.  
 Do not swallow.  
 Do not get in eyes.  
 Avoid prolonged or repeated contact with skin.  
 Wash skin thoroughly after handling.  
 Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
 Keep container tightly closed.  
 Minimize dust generation and accumulation.  
 Keep container closed when not in use.  
 Keep away from heat and sources of ignition.  
 Take precautionary measures against static discharges.  
 Do not eat, drink or smoke when using this product.  
 Take care to prevent spills, waste and minimize release to the environment.
- Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

#### 7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : Keep in properly labelled containers. Keep tightly closed.  
 Store in accordance with the particular national regulations.
- Advice on common storage : Do not store with the following product types:  
 Strong oxidizing agents

#### 7.3 Specific end use(s)

- Specific use(s) : No data available

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### Occupational Exposure Limits

| Components  | CAS-No.     | Value type (Form of exposure) | Control parameters            | Basis    |
|---|-------------|-------------------------------|-------------------------------|----------|
| Caspofungin   | 179463-17-3 | TWA                           | 140 µg/m <sup>3</sup> (OEB 2) | Internal |
| Sucrose   | 57-50-1     | OEL-RL                        | 10 mg/m <sup>3</sup>          | ZA OEL   |
| Further information: Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents |             |                               |                               |          |

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|-------------|---|----------------|--------------------------------|-------------|
| Acetic acid | 64-19-7   | OEL-RL         | 20 ppm                         | ZA OEL      |
|             | Further information: Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents |                |                                |             |
|             |   | OEL- RL STEL/C | 30 ppm                         | ZA OEL      |
|             | Further information: Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents |                |                                |             |
|             |   | TWA            | 10 ppm<br>25 mg/m <sup>3</sup> | 2017/164/EU |
|             |   | STEL           | 20 ppm<br>50 mg/m <sup>3</sup> | 2017/164/EU |

## Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

| Substance name | End Use   | Exposure routes | Potential health effects | Value                |
|----------------|-----------|-----------------|--------------------------|----------------------|
| Acetic acid    | Workers   | Inhalation      | Long-term local effects  | 25 mg/m <sup>3</sup> |
|                | Workers   | Inhalation      | Acute local effects      | 25 mg/m <sup>3</sup> |
|                | Consumers | Inhalation      | Long-term local effects  | 25 mg/m <sup>3</sup> |
|                | Consumers | Inhalation      | Acute local effects      | 25 mg/m <sup>3</sup> |

## Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

| Substance name | Environmental Compartment | Value                         |
|----------------|---------------------------|-------------------------------|
| Acetic acid    | Fresh water               | 3,058 mg/l                    |
|                | Freshwater - intermittent | 30,58 mg/l                    |
|                | Marine water              | 0,3058 mg/l                   |
|                | Sewage treatment plant    | 85 mg/l                       |
|                | Fresh water sediment      | 11,36 mg/kg dry weight (d.w.) |
|                | Marine sediment           | 1,136 mg/kg dry weight (d.w.) |
|                | Soil                      | 0,47 mg/kg dry weight (d.w.)  |

## 8.2 Exposure controls

## Engineering measures

Ensure adequate ventilation, especially in confined areas.  
 Minimize workplace exposure concentrations.  
 Apply measures to prevent dust explosions.  
 Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

## Personal protective equipment

Eye/face protection : Wear the following personal protective equipment:  
 Chemical resistant goggles must be worn.  
 If splashes are likely to occur, wear:  
 Face-shield

Hand protection

Material : Chemical-resistant gloves

Remarks : Choose gloves to protect hands against chemicals depending

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on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Combined particulates and organic vapour type (A-P)

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

|  |   |
|--|---|
| Appearance                                       | : powder  |
| Colour   | : off-white   |
| Odour  | : No data available   |
| Odour Threshold                                  | : No data available   |
| pH   | : No data available   |
| Melting point/freezing point                     | : No data available   |
| Initial boiling point and boiling range          | : No data available   |
| Flash point                                      | : Not applicable  |
| Evaporation rate                                 | : Not applicable  |
| Flammability (solid, gas)                        | : May form explosive dust-air mixture during processing, handling or other means. |
| Flammability (liquids)                           | : Not applicable  |
| Upper explosion limit / Upper flammability limit | : No data available   |
| Lower explosion limit / Lower flammability limit | : No data available   |
| Vapour pressure                                  | : Not applicable  |
| Relative vapour density                          | : Not applicable  |
| Relative density                                 | : No data available   |
| Density  | : No data available   |

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|  |  |
|--|--|
| Solubility(ies)                        |  |
| Water solubility                       | : No data available  |
| Partition coefficient: n-octanol/water | : Not applicable   |
| Auto-ignition temperature              | : No data available  |
| Decomposition temperature              | : No data available  |
| Viscosity                              |  |
| Viscosity, kinematic                   | : Not applicable   |
| Explosive properties                   | : Not explosive  |
| Oxidizing properties                   | : The substance or mixture is not classified as oxidizing. |

**9.2 Other information**

|                         |                               |
|-------------------------|-------------------------------|
| Molecular weight        | : No data available           |
| Minimum ignition energy | : 100 - 300 mJ<br>30 - 100 mJ |
| Particle size           | : No data available           |

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**SECTION 10: Stability and reactivity****10.1 Reactivity**

Not classified as a reactivity hazard.

**10.2 Chemical stability**

Stable under normal conditions.

**10.3 Possibility of hazardous reactions**

|                     |  |
|---------------------|--|
| Hazardous reactions | : May form explosive dust-air mixture during processing, handling or other means.<br>Can react with strong oxidizing agents. |
|---------------------|--|

**10.4 Conditions to avoid**

|                     |   |
|---------------------|---|
| Conditions to avoid | : Heat, flames and sparks.<br>Avoid dust formation. |
|---------------------|---|

**10.5 Incompatible materials**

|                    |                    |
|--------------------|--------------------|
| Materials to avoid | : Oxidizing agents |
|--------------------|--------------------|

**10.6 Hazardous decomposition products**

No hazardous decomposition products are known.

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**SECTION 11: Toxicological information****11.1 Information on toxicological effects**



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Information on likely routes of exposure : Inhalation  
Skin contact  
Ingestion  
Eye contact

**Acute toxicity**

|| Not classified based on available information.

**Components:****Caspofungin:**

|| Acute oral toxicity : LD50 (Mouse): > 2.000 mg/kg  
|| Acute toxicity (other routes of administration) : LD50 (Mouse): 19 mg/kg  
Application Route: Intravenous  
LD50 (Rat): 38 mg/kg  
Application Route: Intravenous

**Acetic acid:**

|| Acute oral toxicity : LD50 (Rat): > 2.000 - 5.000 mg/kg  
Remarks: Based on data from similar materials  
|| Acute inhalation toxicity : Assessment: Corrosive to the respiratory tract.  
|| Acute dermal toxicity : LD50 (Rabbit): > 5.000 mg/kg  
Remarks: Based on data from similar materials

**Skin corrosion/irritation**

|| Not classified based on available information.

**Components:****Caspofungin:**

|| Species : Rabbit  
|| Result : Mild skin irritation

**Acetic acid:**

|| Species : Rabbit  
|| Result : Corrosive after 3 minutes or less of exposure

**Serious eye damage/eye irritation**

|| Causes serious eye damage.

**Components:****Caspofungin:**

|| Species : Rabbit  
|| Method : Bovine cornea (BCOP)  
|| Result : Irreversible effects on the eye

**Acetic acid:**

|| Species : Rabbit

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**Result** : Irreversible effects on the eye

### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

#### Respiratory sensitisation

Not classified based on available information.

#### Germ cell mutagenicity

Not classified based on available information.

### Components:

#### Caspofungin:

Genotoxicity in vitro : Test Type: Chromosomal aberration  
 Test system: Chinese hamster ovary cells  
 Result: negative

Test Type: Bacterial reverse mutation assay (AMES)  
 Result: negative

Test Type: Alkaline elution assay  
 Test system: rat hepatocytes  
 Result: negative

Test Type: In vitro mammalian cell gene mutation test  
 Test system: Chinese hamster fibroblasts  
 Result: negative

Genotoxicity in vivo : Test Type: Chromosomal aberration  
 Species: Mouse  
 Cell type: Bone marrow  
 Result: negative

#### Acetic acid:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
 Result: negative

Test Type: Chromosome aberration test in vitro  
 Result: negative

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)  
 Result: negative

Test Type: In vitro mammalian cell gene mutation test  
 Result: equivocal  
 Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
 Species: Rat  
 Application Route: inhalation (vapour)

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Result: negative  
Remarks: Based on data from similar materials

**Carcinogenicity**

Not classified based on available information.

**Components:****Acetic acid:**

|                   |                |
|-------------------|----------------|
| Species           | : Mouse        |
| Application Route | : Skin contact |
| Exposure time     | : 32 weeks     |
| Result            | : negative     |

**Reproductive toxicity**

May cause harm to breast-fed children.

**Components:****Caspofungin:**

|                                    |   |
|------------------------------------|---|
| Effects on fertility               | : Test Type: Fertility<br>Species: Rat, male and female<br>Application Route: Intravenous injection<br>Fertility: NOAEL Parent: 5 mg/kg body weight<br>Result: No effects on fertility and early embryonic development were detected.   |
| Effects on foetal development      | : Test Type: Embryo-foetal development<br>Species: Rat<br>Application Route: Intravenous injection<br>General Toxicity Maternal: LOAEL: 5 mg/kg body weight<br>Embryo-foetal toxicity: NOAEL F1: 2 mg/kg body weight<br>Symptoms: Abnormalities of the musculoskeletal system<br>Result: Embryotoxic effects and adverse effects on the offspring were detected.<br><br>Test Type: Development<br>Species: Rabbit<br>Application Route: Intravenous injection<br>General Toxicity Maternal: NOAEL: 3 mg/kg body weight<br>Developmental Toxicity: NOAEL F1: $\geq$ 6 mg/kg body weight<br>Result: Embryotoxic effects and adverse effects on the offspring were detected. |
| Reproductive toxicity - Assessment | : Studies indicating a hazard to babies during the lactation period   |

**Acetic acid:**

|                               |  |
|-------------------------------|--|
| Effects on foetal development | : Test Type: Embryo-foetal development<br>Species: Rat<br>Application Route: Ingestion<br>Result: negative |
|-------------------------------|--|

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**STOT - single exposure**

|| Not classified based on available information.

**STOT - repeated exposure**

|| Not classified based on available information.

**Repeated dose toxicity****Components:****Caspofungin:**

|                     |               |
|---------------------|---------------|
| Species             | : Monkey      |
| NOAEL               | : 2 mg/kg     |
| LOAEL               | : 5 mg/kg     |
| Application Route   | : Intravenous |
| Exposure time       | : 27 Weeks    |
| Number of exposures | : daily       |
| Target Organs       | : Liver       |

|                   |                      |
|-------------------|----------------------|
| Species           | : Rat                |
| LOAEL             | : 1,8 mg/kg          |
| Application Route | : Intravenous        |
| Exposure time     | : 27 Weeks           |
| Symptoms          | : Swelling of tissue |

|                     |                      |
|---------------------|----------------------|
| Species             | : Rat                |
| NOAEL               | : 2 mg/kg            |
| LOAEL               | : 5 mg/kg            |
| Application Route   | : Intravenous        |
| Exposure time       | : 14 Weeks           |
| Number of exposures | : daily              |
| Symptoms            | : Swelling of tissue |

**Acetic acid:**

|                   |             |
|-------------------|-------------|
| Species           | : Rat       |
| NOAEL             | : 290 mg/kg |
| Application Route | : Ingestion |
| Exposure time     | : 8 Weeks   |

**Aspiration toxicity**

|| Not classified based on available information.

**Components:****Caspofungin:**

|| No aspiration toxicity classification

**SECTION 12: Ecological information****12.1 Toxicity****Components:****Caspofungin:**

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|  |   |   |
|--|---|---|
| Toxicity to fish   | : | LC50 (Pimephales promelas (fathead minnow)): 2,4 mg/l<br>Exposure time: 96 h  |
| Toxicity to daphnia and other aquatic invertebrates                    | : | EC50 (Daphnia magna (Water flea)): 22,6 mg/l<br>Exposure time: 48 h   |
| Toxicity to algae/aquatic plants                                       | : | EC50 (Pseudokirchneriella subcapitata (green algae)): 0,1 mg/l<br>Exposure time: 72 h<br><br>NOEC (Pseudokirchneriella subcapitata (green algae)): 0,05 mg/l<br>Exposure time: 72 h   |
| M-Factor (Acute aquatic toxicity)                                      | : | 10  |
| Toxicity to microorganisms   | : | EC50 : > 127 mg/l<br>Exposure time: 3 h<br>Test Type: Respiration inhibition<br>Method: OECD Test Guideline 209<br><br>NOEC : 38 mg/l<br>Exposure time: 3 h<br>Test Type: Respiration inhibition<br>Method: OECD Test Guideline 209 |
| Toxicity to fish (Chronic toxicity)                                    | : | NOEC: 0,084 mg/l<br>Exposure time: 32 d<br>Species: Pimephales promelas (fathead minnow)<br>Method: OECD Test Guideline 210   |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 0,67 mg/l<br>Exposure time: 21 d<br>Species: Daphnia magna (Water flea)<br>Method: OECD Test Guideline 211  |
| M-Factor (Chronic aquatic toxicity)                                    | : | 1   |

**Acetic acid:**

|   |   |   |
|---|---|---|
| Toxicity to fish                                    | : | LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l<br>Exposure time: 96 h<br>Remarks: Based on data from similar materials  |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 100 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202<br>Remarks: Based on data from similar materials                                      |
| Toxicity to algae/aquatic plants                    | : | ErC50 (Skeletonema costatum (marine diatom)): > 100 mg/l<br>Exposure time: 72 h<br>Remarks: Based on data from similar materials<br><br>NOEC (Skeletonema costatum (marine diatom)): > 1 mg/l |

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|  |  |
|--|--|
|  | Exposure time: 72 h  |
|  | Remarks: Based on data from similar materials                                  |
| Toxicity to microorganisms   | : NOEC (Pseudomonas putida): 1.150 mg/l<br>Exposure time: 16 h                 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : NOEC: > 1 mg/l<br>Exposure time: 21 d<br>Species: Daphnia magna (Water flea) |

## 12.2 Persistence and degradability

**Components:****Caspofungin:**

|                    |   |
|--------------------|---|
| Biodegradability   | : Result: Not readily biodegradable.<br>Biodegradation: 71,9 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 302B |
| Stability in water | : Degradation half life (DT50): 2,8 h   |

**Acetic acid:**

|                  |   |
|------------------|---|
| Biodegradability | : Result: Readily biodegradable.<br>Biodegradation: 96 %<br>Exposure time: 20 d |
|------------------|---|

## 12.3 Bioaccumulative potential

**Components:****Caspofungin:**

|  |                 |
|--|-----------------|
| Partition coefficient: n-octanol/water | : log Pow: -1,6 |
|--|-----------------|

**Acetic acid:**

|  |                  |
|--|------------------|
| Partition coefficient: n-octanol/water | : log Pow: -0,17 |
|--|------------------|

## 12.4 Mobility in soil

No data available

## 12.5 Results of PBT and vPvB assessment

**Product:**

|            |  |
|------------|--|
| Assessment | : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. |
|------------|--|

## 12.6 Other adverse effects

**Product:**

|                             |   |
|-----------------------------|---|
| Endocrine disrupting poten- | : The substance/mixture does not contain components consid- |
|-----------------------------|---|

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ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

Product : Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities. Do not dispose of waste into sewer.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal. If not otherwise specified: Dispose of as unused product.

**SECTION 14: Transport information****14.1 UN number**

ADN : UN 3077

ADR : UN 3077

RID : UN 3077

IMDG : UN 3077

IATA : UN 3077

**14.2 UN proper shipping name**

ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Caspofungin)

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Caspofungin)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Caspofungin)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Caspofungin)

IATA : Environmentally hazardous substance, solid, n.o.s. (Caspofungin)

**14.3 Transport hazard class(es)**

|     | Class | Subsidiary risks |
|-----|-------|------------------|
| ADN | : 9   |                  |

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|             |   |   |
|-------------|---|---|
| <b>ADR</b>  | : | 9 |
| <b>RID</b>  | : | 9 |
| <b>IMDG</b> | : | 9 |
| <b>IATA</b> | : | 9 |

**14.4 Packing group**

**ADN**

|                              |   |     |
|------------------------------|---|-----|
| Packing group                | : | III |
| Classification Code          | : | M7  |
| Hazard Identification Number | : | 90  |
| Labels                       | : | 9   |

**ADR**

|                              |   |     |
|------------------------------|---|-----|
| Packing group                | : | III |
| Classification Code          | : | M7  |
| Hazard Identification Number | : | 90  |
| Labels                       | : | 9   |
| Tunnel restriction code      | : | (-) |

**RID**

|                              |   |     |
|------------------------------|---|-----|
| Packing group                | : | III |
| Classification Code          | : | M7  |
| Hazard Identification Number | : | 90  |
| Labels                       | : | 9   |

**IMDG**

|               |   |          |
|---------------|---|----------|
| Packing group | : | III      |
| Labels        | : | 9        |
| EmS Code      | : | F-A, S-F |

**IATA (Cargo)**

|                                      |   |               |
|--------------------------------------|---|---------------|
| Packing instruction (cargo aircraft) | : | 956           |
| Packing instruction (LQ)             | : | Y956          |
| Packing group                        | : | III           |
| Labels                               | : | Miscellaneous |

**IATA (Passenger)**

|  |   |               |
|--|---|---------------|
| Packing instruction (passenger aircraft) | : | 956           |
| Packing instruction (LQ)                 | : | Y956          |
| Packing group                            | : | III           |
| Labels                                   | : | Miscellaneous |

**14.5 Environmental hazards**

**ADN**

|                           |   |     |
|---------------------------|---|-----|
| Environmentally hazardous | : | yes |
|---------------------------|---|-----|

**ADR**

|                           |   |     |
|---------------------------|---|-----|
| Environmentally hazardous | : | yes |
|---------------------------|---|-----|

**RID**

|                           |   |     |
|---------------------------|---|-----|
| Environmentally hazardous | : | yes |
|---------------------------|---|-----|

**IMDG**

|                  |   |     |
|------------------|---|-----|
| Marine pollutant | : | yes |
|------------------|---|-----|



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**IATA (Passenger)**

Environmentally hazardous : yes

**IATA (Cargo)**

Environmentally hazardous : yes

**14.6 Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Remarks : Not applicable for product as supplied.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****The components of this product are reported in the following inventories:**

AICS : not determined

DSL : not determined

IECSC : not determined

**15.2 Chemical safety assessment**

A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

Other information : Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

**Full text of H-Statements**

|      |   |
|------|---|
| H226 | : Flammable liquid and vapour.                          |
| H314 | : Causes severe skin burns and eye damage.              |
| H318 | : Causes serious eye damage.                            |
| H362 | : May cause harm to breast-fed children.                |
| H400 | : Very toxic to aquatic life.                           |
| H410 | : Very toxic to aquatic life with long lasting effects. |

**Full text of other abbreviations**

|                 |  |
|-----------------|--|
| Aquatic Acute   | : Short-term (acute) aquatic hazard  |
| Aquatic Chronic | : Long-term (chronic) aquatic hazard   |
| Eye Dam.        | : Serious eye damage   |
| Flam. Liq.      | : Flammable liquids  |
| Lact.           | : Effects on or via lactation  |
| Skin Corr.      | : Skin corrosion   |
| 2017/164/EU     | : Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values |

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|                         |   |   |
|-------------------------|---|---|
| ZA OEL                  | : | South Africa. The Regulations for Hazardous Chemical Agents, Occupational Exposure Limits               |
| 2017/164/EU / STEL      | : | Short term exposure limit   |
| 2017/164/EU / TWA       | : | Limit Value - eight hours   |
| ZA OEL / OEL-RL         | : | Occupational Exposure Limit Restricted limit - 8- hour exposure or equivalent (12 hour shifts)          |
| ZA OEL / OEL- RL STEL/C | : | Occupational Exposure Limit Restricted limit - Short term occupational exposure limits / ceiling limits |

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

**Further information**

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

**Classification of the mixture:**

|                   |      |
|-------------------|------|
| Eye Dam. 1        | H318 |
| Lact.             | H362 |
| Aquatic Acute 1   | H400 |
| Aquatic Chronic 1 | H410 |

**Classification procedure:**

|                    |
|--------------------|
| Calculation method |
| Calculation method |
| Calculation method |
| Calculation method |

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