



# SibEnzyme Ltd.

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## **MATERIAL SAFETY DATA SHEET**

(The format of the MSDS complies with Commission Directive 2001/58/EC as amended.)

Revised: 01 December 2017

### **1. IDENTIFICATION OF THE PREPARATION/SUBSTANCE AND OF THE COMPANY**

**Preparation Name:**

**PfuSE DNA polymerase** - buffered aqueous glycerol solution.

(Supplied with: SE-buffer PfuSE DNA polymerase, BSA-solution).

**Source:**

An E. coli strain that carries recombinant plasmid containing the modified Pfu DNA Polymerase gene from *Pyrococcus furiosus*.

**Catalogue numbers of the product:**

E363, E364, SE364, ME364, LE364 (depending on the quantity).

**Use of the preparation:**

For laboratory use.

**Company identification:**

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## 2. COMPOSITION/ INFORMATION ON INGREDIENTS

### Ingredients:

1. PfuSE DNA polymerase	< 0.1% (w/v)	EC#	CAS#
2. Glycerol	50% (v/v)	EC#200-289-5	CAS#56-81-5
3. Potassium dihydrogenorthophosphate	< 1% (w/v)	EC#231-913-4	CAS#7778-77-0
4. EDTA (disodium salt)	< 0.01% (w/v)	EC#205-358-3	CAS#139-33-3
5. DTT (Dithiothreitol)	< 0.1% (w/v)	EC#222-468-7	CAS#3483-12-3
6. Tween-20 (Sorbitan monolaurate, ethoxylated)	0.5% (v/v)	EC#500-018-3	CAS#9005-64-5
7. Water	~ 48% (v/v)	EC#231-791-2	CAS#7732-18-5

Ingredients indicated above do not present a health or environmental hazard within the meaning of Council Directive 67/548/EEC (and Commission Directive 2008/58/EC), or their concentrations do not exceed the limits specified in Council Directive 1999/45/EC, and in Commission Directive 2001/58/EC.

## 3. HAZARDS IDENTIFICATION

The preparation is not classified as dangerous according to Directive 1999/45/EC or Directive 67/548/EC, and is not labelled with danger symbols or indications of danger. (The same is in the Commission Directive 2008/58/EC of 21 August 2008).

### Hazards deriving from physical-chemical properties:

The data available do not support any physical or chemical hazard.

### Human health hazards:

Aqueous glycerol enzyme solutions are aerosol-free preparations. However, inappropriate handling may cause formation of aerosols. Inhalation of enzyme aerosols may cause allergic type reactions in sensitized individuals. Prolonged skin contact may cause minor irritation.

**Caution:** Avoid inhalation, ingestion, and skin contacts.

### Environmental hazards:

The data available do not support any environmental hazard.

## 4. FIRST-AID MEASURES

### Ingestion:

If swallowed, rinse mouth and throat thoroughly with water. Consult a doctor in event of any complaints.

### Inhalation:

If inhaled, remove victim from area of exposure. If symptoms of irritation or respiratory allergy occur, consult a doctor.

### Skin contact:

Generally, the product does not irritate the skin. If symptoms of irritation after prolonged exposure occur, consult a doctor.

### Eye contact:

In case of contact, wash out opened eyes with plenty of water for several minutes. Consult a doctor in event of any complaints.

## 5. FIRE-FIGHTING MEASURES

The preparation cannot cause fire.

### **Suitable extinguishing agents:**

Water spray, Carbon Dioxide, dry chemical powder or appropriate foam.

### **Not suitable extinguishing agents:**

None.

### **Special exposure hazards from decomposition products:**

Not thoroughly investigated.

### **Protective equipment:**

Wear self-contained breathing apparatus and protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

### **Personal precautions:**

Wear appropriate gloves (see Section 8), safety glasses to clean small releases/spillage. In case of vapour/aerosol formation, wear suitable respiratory protection means. Ventilate the area.

### **Environmental precautions:**

No special measures required.

### **Methods for cleaning up:**

Absorb spillages with liquid-binding material. Ventilate and wash the area after the spillage is completely removed.

### **Additional information:**

No dangerous substances are released.

## 7. HANDLING AND STORAGE

### **Handling:**

No further requirements.

Use appropriate personal protection measures (see Section 8). Avoid any contact with the liquid. Avoid the formation of aerosols. Ventilate area.

### **Storage:**

Store at - 20°C.

None other specific requirements relating to the preparation.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that need to be monitored at the workplace.

**General protective and hygienic measures:**

The usual precautionary measures are the same as for chemicals handling.

**Engineering measures:**

None specific requirements relating to the preparation.

**Personal protection:**

- **Respiratory protection:** No special measures required.
- **Hand protection:** Wear rubber gloves. None special requirements to rubber.
- **Eye protection:** No need to wear glasses (goggles) when ordinary operations with the preparation. Safety glasses are recommended during certain operations when aerosol formation is possible.
- **Skin protection:** The usual precautionary measures accepted in research laboratories, e.g. protective clothes (gowns). None specific requirements.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:** Liquid.

**Colour:** Colourless.

**Odour:** Odourless.

**pH-value at 25°C:** 7.4.

**Boiling point:** 182°C.

**Melting Point:** 20°C.

**Flash Point:** Not applicable.

**Flammability/autoflammability:** The preparation is not flammable/self-igniting.

**Explosive properties:** The preparation does not possess explosive properties.

**Oxidizing properties:** Not applicable.

**Vapour pressure:** Not applicable.

**Relative density at 20°C:** 1.13 g/cm<sup>3</sup>.

**Solubility in/miscibility with water:** Fully miscible.

**Fat solubility:** Not applicable.

**Vapour density:** Not applicable.

**Evaporation rate:** Not applicable.

**Conductivity:** Not applicable.

**Viscosity:** Viscous.

**10. STABILITY AND REACTIVITY****Stability:**

Stable under storage conditions (see Section 7). Storage at room temperature may result in lowering of the specific activity, but not result in any hazardous reactions.

**Conditions to avoid:**

No conditions which may cause dangerous reactions.

**Possibility of hazardous reactions:**

No dangerous reactions known.

**Materials to avoid:**

No materials which may cause dangerous reactions.

**Hazardous decomposition products:**

No dangerous decomposition products known.

**Hazardous polymerization:**

Will not occur.

**11. TOXICOLOGICAL INFORMATION****Routes of exposure:**

**Inhalation:** Inhalation of enzyme aerosols may cause allergic type reactions in sensitized individuals.

**Ingestion:** Repeated ingestion or excessive dosage may cause irritation of the gastrointestinal tract.

**Skin and eye contact:** Generally, the product does not irritate the skin and eyes. Prolonged skin or eye contact may cause minor irritation.

**Additional toxicological information:**

When used and handled according to specifications, the product does not have any harmful effects.

The product is not listed in a priority list (as foreseen under Council Regulation (EEC) No 793/93 on the evaluation and control of the risks of the existing substances).

**12. ECOLOGICAL INFORMATION****Ecotoxicity:**

The preparation is considered not dangerous to the environment with respect to mobility, persistence and degradability, bioaccumulation, aquatic toxicity and other data relating to ecotoxicity.

**Persistence and degradability:**

The preparation is readily biodegradable.

**Bioaccumulative potential:**

It is considered that the preparation does not accumulate in biota, and does not pass through the food chain.

**Other adverse effects:**

Not applicable.

**13. DISPOSAL CONSIDERATIONS**

The disposal of the product does not present a danger.

No special disposal methods required, except to be in accordance with current local environmental regulations.

**14. TRANSPORT INFORMATION****Special precautions:**

None known.

**Proper shipping name:**

Not dangerous goods according to transport regulations.

**National transport regulations:**

No additional national transport regulations are known to the supplier.

<b>IMDG:</b> Non-hazardous for sea freight.
<b>ADR:</b> Non-hazardous for road transport.
<b>RID:</b> Non-hazardous for rail transport.
<b>ICAO/IATA:</b> Non-hazardous for air transport.

**Other information:**

The preparation has to be stored in ice during the transportation not to lose its specific properties.

**15. REGULATORY INFORMATION**

**US**

**Labelling according to US Regulations:** Caution: Avoid contact and inhalation.

**US Regulatory information:** SARA LISTED: No.

**EU**

**Labelling according to EU Guidelines:** The preparation is not dangerous within the meaning of Directives 67/548/EC, 1999/45/EC, and 88/379/ECC, and is not labelled with danger symbols or indications of danger.

**Canada**

**WHMIS classification:** This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

**DSL:** No.

**NDSL:** No.

**Export and Import of Dangerous Chemicals (Regulation (EC) No 689/2008) Information:**

This substance is not listed in the Annex I of Regulation (EC) No 689/2008.

**16. OTHER INFORMATION**

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. SibEnzyme shall not be held liable for any damage resulting from handling or from contact with the above product.