MATERIAL SAFETY DATA SHEET
(The format of the MSDS complies with Commission Directive 2001/58/EC as amended.)
Revised: 01 December 2006

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

Preparation Name:

Taq DNA polymerase - buffered aqueous glycerol solution.

(Supplied with: SE-buffer Taq DNA polymerase).

Source:
An *E. coli* strain that carries the cloned DNA polymerase gene from *Thermus aquaticus*.

Catalogue numbers of the product:
E331, E332, SE332, ME332, LE332 (depending on the quantity).

Use of the preparation:
For laboratory use.

Company identification:
SibEnzyme Ltd.
2/12 Timakova Str.
630117 Novosibirsk
Russia
Telephone: +7 383 333 4991
Telephone/Fax: +7 383 333 6853
Site: http://www.sibenzyme.com
E-mail: info@sibenzyme.com

Emergency telephone number:
+7 383 333 6853
### 2. COMPOSITION/ INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Concentration</th>
<th>EC#</th>
<th>CAS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Taq DNA polymerase</td>
<td>&lt; 0.1% (w/v)</td>
<td>EC#</td>
<td>CAS#</td>
</tr>
<tr>
<td>2. Glycerol</td>
<td>50% (v/v)</td>
<td>EC#200-289-5</td>
<td>CAS#56-81-5</td>
</tr>
<tr>
<td>3. Tris-HCl</td>
<td>&lt; 1% (w/v)</td>
<td>EC#201-064-4</td>
<td>CAS#77-86-1</td>
</tr>
<tr>
<td>(mix of Tris (Trometamol) and Hydrochloric acid)</td>
<td></td>
<td>EC#231-595-7</td>
<td>CAS#7647-01-0</td>
</tr>
<tr>
<td>4. Potassium chloride</td>
<td>&lt; 1% (w/v)</td>
<td>EC#231-211-8</td>
<td>CAS#7447-40-7</td>
</tr>
<tr>
<td>5. EDTA (disodium salt)</td>
<td>&lt; 0.01% (w/v)</td>
<td>EC#205-358-3</td>
<td>CAS#139-33-3</td>
</tr>
<tr>
<td>6. DTT (Dithiothreitol)</td>
<td>&lt; 0.1% (w/v)</td>
<td>EC#222-468-7</td>
<td>CAS#3483-12-3</td>
</tr>
<tr>
<td>7. Triton X-100 (Octyl phenol ethoxylate)</td>
<td>0.5% (v/v)</td>
<td>EC#</td>
<td>CAS#9002-93-1</td>
</tr>
<tr>
<td>8. Water</td>
<td>~ 48% (v/v)</td>
<td>EC#231-791-2</td>
<td>CAS#7732-18-5</td>
</tr>
</tbody>
</table>


### 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.

**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:** 7.6.
**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/cm³.
**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.

<table>
<thead>
<tr>
<th>IMDG</th>
<th>Non-hazardous for sea freight.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR</td>
<td>Non-hazardous for road transport.</td>
</tr>
<tr>
<td>RID</td>
<td>Non-hazardous for rail transport.</td>
</tr>
<tr>
<td>ICAO/IATA</td>
<td>Non-hazardous for air transport.</td>
</tr>
</tbody>
</table>

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.

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.