



## 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:

Hae III restriction endonuclease (nuclease, restriction endodeoxyribonuclease) - buffered aqueous glycerol solution. (Supplied with: SE-buffer G).

Source:

An E. coli strain that carries the cloned Hae III gene from Haemophilus aegyptius.

Catalogue numbers of the product:

E067, E068, E068X, SE068, ME068, LE068 (depending on the quantity).

Use of the preparation:

For laboratory use.

### 2. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredients:

- |                               |               |              |                |
|-------------------------------|---------------|--------------|----------------|
| 1. Hae III                    | < 0.1% (w/v)  | EC#          | CAS#           |
| 2. Glycerol                   | 50% (v/v)     | EC#200-289-5 | CAS#56-81-5    |
| 3. Sodium chloride            | < 1% (w/v)    | EC#231-598-3 | CAS#7647-14-5  |
| 4. Tris-HCl                   | < 1% (w/v)    |              |                |
| (mix of Tris (Trometamol)     |               | EC#201-064-4 | CAS#77-86-1    |
| and Hydrochloric acid         |               | EC#231-595-7 | CAS#7647-01-0) |
| 5. EDTA (disodium salt)       | < 0.01% (w/v) | EC#205-358-3 | CAS#139-33-3   |
| 6. DTT (Dithiothreitol)       | < 0.1% (w/v)  | EC#222-468-7 | CAS#3483-12-3  |
| 7. BSA (Bovine serum albumin) | 0.02% (w/v)   | EC#232-936-2 | CAS#9048-46-8  |
| 8. 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, 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.

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:** 7.5.

**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

**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.

**IMDG:** Non-hazardous for sea freight.

**ADR:** Non-hazardous for road transport.

**RID:** Non-hazardous for rail transport.

**ICAO/IATA:** 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.**

#### **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.**

**GENTAUR**