



# MATERIAL SAFETY DATA SHEET

|                        |                                                            |
|------------------------|------------------------------------------------------------|
| Company                | ELPIS-Biotech. Inc.                                        |
| Address                | 123-12 Jeonglim-dong, Seo-gu, Daejeon, Korea               |
| Emergency Telephone NO | +82-42-581-8448                                            |
| Fax                    | +82-42-581-8449                                            |
| e-mail address         | <a href="mailto:elpis@elpisbio.com">elpis@elpisbio.com</a> |

## SECTION 1. CHEMICAL INFORMATION

Product name                                       $\beta$ -N-Acetylhexosaminidase, E.coli  
Cat. No.                                              EBG-1010  
Protein ( $\beta$ -N-Acetylhexosaminidase, E.coli) in buffer solution. Volume of product package: 200ul.

**Product Use** : Laboratory Reagent. For R&D use only. Not for drug, household or other uses.

### **Manufacturer/ Supplier information**

Supply company : ELPIS-Biotech. Inc.  
Address : 123-12 Jeonglim-dong, Seo-gu, Daejeon, Korea  
Information service or emergency call : +82-42-581-8448 (042-581-8448, Korea)  
Department in charge : Research Department

## SECTION 2. HAZARDOUS IDENTIFICATION



**Primary routes of entry** : Skin or eye contact from splashes. Inhalation of the vapor at room temperature is unlikely.

**Potential Acute Health Effects**: Slightly hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation.

**Potential Chronic Health Effects**: CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys. Repeated or prolonged exposure to the substance can produce target organs damage.

**Evidence for reproductive toxicity, carcinogenicity and mutagenicity** : No data available

HMIS RATING -      Health : 2              Flammability : 0              Reactivity : 0

### SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical characterization : Mixtures

Description : Mixture of the substances listed below with nonhazardous additions.

#### Buffer's Components in Water:

| Reagent         | CAS#      | Concentration, % |
|-----------------|-----------|------------------|
| Tris-HCl        | 77-86-1   | < 1              |
| Sodium chloride | 7647-14-5 | < 1              |
| Glycerol        | 56-81-5   | < 50             |
| EDTA            | 6381-92-6 | < 1              |

#### Components:

|          |                |                   |         |
|----------|----------------|-------------------|---------|
| Glycerol | CAS: 56-81-5   | EI;ECS: 200-289-5 | ≤ 50 %  |
| water    | CAS: 7732-18-5 | EI;ECS: 231-791-2 | 25-45 % |

**Other components** are not dangerous or their concentrations do not exceed the limits specified in the EU directive 1999/45/EC.

### SECTION 4. FIRST AID MEASURES

#### Primary routes of entry

Skin or eye contact from splashes.

Inhalation of the vapor at room temperature is unlikely.

#### Skin contact

May cause irritation

#### Eye contact

Irritating

#### Evidence for reproductive toxicity, carcinogenicity and mutagenicity

No data available

### SECTION 5. FIRE FIGHTING MEASURES

#### Extinguishing media

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

#### Special firefighting procedures

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

#### Unusual fire and explosions hazards

Emit toxic fumes under fire conditions

#### Prevent contact with skin and eyes.

**Flash Point : N/A**

**Flammability : N/A**

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

Not required.

### Environmental precautions

Do not allow entering sewers, surfaces or ground water.

### Measures for cleaning / collecting

Collect spilled liquid with liquid-binding material or inert absorbent and place it in container for disposal. Wash spill site after material pickup is complete.

## SECTION 7. HANDLING AND STORAGE

**Handling :** User Exposure : Avoid contact with eyes, skin, and clothing.

Avoid inhalation. Avoid prolonged or repeated exposure.

**Storage :** No special measures necessary. Keep tightly closed. Store at -20°C.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering controls :** safety shower and eye bath. Mechanical exhaust required.

### Personal Protective equipment :

**Respiratory :** NIOSH/MSHA-approved respirator

**Hand :** Compatible chemical -resistant gloves.

**Eye :** Compatible safety goggles.

**General Hygiene Measures :** Wash thoroughly after handling.

Wash contaminated clothing before use.

Keep tightly closed. Store in a cool dry place. Freeze. Store at -20°C.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

|                             |                    |
|-----------------------------|--------------------|
| <b>Appearance</b>           | Liquid.            |
| <b>Color</b>                | Clear              |
| <b>Odor</b>                 | Odorless.          |
| <b>Melting point</b>        | 20° C              |
| <b>Boiling point</b>        | 182° C             |
| <b>Flash point</b>          | > 392 F, > 200° C  |
| <b>Explosive properties</b> | No data available. |
| <b>Vapor pressure</b>       | < 1 MMHG @ 20°C    |

## SECTION 10. STABILITY AND REACTIVITY

|                                          |                                        |
|------------------------------------------|----------------------------------------|
| <b>Stability</b>                         | Stable.                                |
| <b>Hazardous polymerization</b>          | Will not occur                         |
| <b>Materials to Avoid</b>                | Strong oxidizing agents, strong bases. |
| <b>Hazardous Decomposition Products:</b> | Carbon Monoxide, Carbon Dioxide        |
| <b>Protect from heat and moisture</b>    |                                        |

## **SECTION 11. TOXICOLOGICAL INFORMATION**

**Eye Contact:** Irritating to eyes

**Skin Contact** Irritating to skin.

**Multiple Routes** May be harmful by inhalation, ingestion, or skin absorption

Materials may be irritating to mucous membranes and upper respiratory tract.

**Chronic Effects** : Target Organs, Kidney

Signs and Symptoms of Exposure : Prolonged exposure can cause : Nausea, headache and vomiting

To the best of our knowledge, the properties have not yet been thoroughly investigated.

## **SECTION 12. ECOLOGICAL INFORMATION**

Data not yet available

## **SECTION 13. DISPOSAL CONSIDERATIONS**

Contact a licensed professional waste disposal service to dispose of this material.

Observe all federal, state and local environmental regulations

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

## **SECTION 14. TRANSPORT INFORMATION**

Contact ELPIS Biotech, Inc. Company for Transportation Information.

## **SECTION 15. REGULATORY INFORMATION**

US Classification and Label text

US Statements : Caution: Avoid contact and inhalation

United States regulatory information

SARA Listed : No

Canada regulatory information

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

## **SECTION 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.

ELPIS Biotech Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

Date of preparation of the first version : 2011. 03. 10.

Revised frequency and Date of preparation of the latest version : 2013. 06. 05. (2nd version)