



# MATERIAL SAFETY DATA SHEET

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## SECTION 1. CHEMICAL INFORMATION

Product name                                      Endo F1 (Endoglycosidase F1)  
Cat. No.    EBG-1002  
Protein (Endo F1 ) in buffer solution. Volume of product package: 100ul.

**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.

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