



SECTION 1. CHEMICAL INFORMATION

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

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



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

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

SECTION 10. STABILITY AND REACTIVITY

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

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)