



MATERIAL SAFETY DATA SHEET

Company	ELPIS-Biotech. Inc.
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SECTION 1. CHEMICAL INFORMATION

Product name Pico EPD Western Reagent

Cat. No. EBP-1073

Volume of product package: Soln A (200ml) Soln B (200ml).

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.

Skin contact May cause irritation

Eye contact Irritating

Evidence for reproductive toxicity, carcinogenicity and mutagenicity

No data available

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical characterization : Mixtures

Description : Mixture of the substances listed below.

Buffer's Components in Water:

Reagent	CAS#	Concentration, %
Tris-HCl	77-86-1	< 1
Sodium borate	79060-88-1	< 1
Glycine	50-40-6	< 1

SECTION 4. FIRST AID MEASURES

After skin contact

Wash skin with water and soap and rinse thoroughly. Remove contaminated clothing. Get medical attention if irritating occurs.

After eye contact

In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if irritation occurs.

After swallowing (ingestion)

Rinse mouth. Drink plenty of water. Get medical attention if irritating or symptoms occur

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

SECTION 5. FIRE FIGHTING MEASURES

Flammability of the product

In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not Suitable : None known.

Special exposure hazards

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Measures for cleaning / collecting

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Small spill

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor

SECTION 7. HANDLING AND STORAGE

Handling

Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory	A respirator is not needed under normal and intended conditions of product use.
Hands	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Eyes	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
Skin	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid.
Color	Clear
Odor	Odorless.
Flash point	> 392 F, > 200° C
Explosive properties	No data available.
Vapor pressure	< 1 MMHG @ 20°C
Solubility	Easily soluble in the following materials: cold water and hot water

SECTION 10. STABILITY AND REACTIVITY

Stability	Stable.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.
Materials to Avoid	Strong oxidizing agents, strong bases.
Conditions of reactivity	Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture. Not considered to be a product presenting a risk of explosion.

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.

SECTION 12. ECOLOGICAL INFORMATION

Data not yet available

SECTION 13. DISPOSAL CONSIDERATIONS

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Dispose of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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

HCS Classification

Irritating material

U.S. Federal regulations

SARA 302/304/311/312 extremely hazardous substances: No products were found.SARA 302/304 emergency planning and notification: No products were found.SARA 302/304/311/312 hazardous chemicals: No products were found.SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found

State regulations

Connecticut Carcinogen Reporting: None of the components are listed.Connecticut Hazardous Material Survey: None of the components are listed

EU regulations

Risk phrases This product is not classified according to EU legislation.

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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