MATERIAL SAFETY DATA SHEET

Company	ELPIS-Biotech. Inc.
Address	123-12 Jeonglim-dong, Seo-gu, Daejeon, Korea
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SECTION 1. CHEMICAL INFORMATION

Product name Protein Extraction Solution (NP-40)

Cat. No. EBA-1049

Buffer solution. Volume of product package: 100ml.

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.

Ingestion NP-40 : Large doses may cause gastrointestinal distress, nausea and diarrhea.

Skin contact May cause irritation.

Eye contact Severely Irritating to eyes. Risk of serious damage to eyes.

Evidence for reproductive toxicity, carcinogenicity and mutagenicity

No data availalbe

Chronic effects

Contains material that can cause target organ damage. Once sensitized. A severe allergic reaction may occur when subsequently exposed to very low level

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical characterization : Mixtures

Description : Mixture of the substances listed below with additions.

Buffer's Components in Water:

Reagent	CAS#	Concentration, %
Tris-HCl	77-86-1	< 1
Sodium chloride	7647-14-5	< 1
EDTA	6381-92-6	< 0.01
NP-40	9036-19-5	< 1
PMSF	329-98-6	< 0.01

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

Rinse opened eyes for at least 15 minutes under running water. Get medical attention if eyes become irritating.

After swallowing (ingestion)

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

After inhalation

Move exposed person to fresh air. If no breathing is irregular or if resparatory arrest occurs , provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

SECTION 5. FIRE FIGHTING MEASURES

Extinguishing media

Water spray

Carbon dioxide, dry chemical powder or appopriate 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 undrer fire conditions

Prevent contact with skin and eyes.

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

Put on appropriate personal protective equipment. Eating, drinking and smoking should be prohibited in aeras where this material is handled, stored and processed. Good laboratory technique should be used when handling.

Storage

No special measures necessary. Store at 2~ 8 °C. Keep container tightly closed and sealed until ready for use.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Recommened monitoring procedure

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 the other control measures and/or the necessity touse respiratory protective equipment.

Hygiene measures

Wash hands, forearms and face throughly after handling chemical products, before eating, smoking and using the laboratory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminate work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory

Iuse a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and thw safe working limits of the selected respirator.

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 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 specialist before handling this product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid.
Color	Colorless
Odor	Odorless.
pH	7.3 to 7.9
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

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.

Preparations may cause allergic reactions in certain sensitive individuals.

SECTION 12. ECOLOGICAL INFORMATION

Data not yet avaliable

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 combustable 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

United states

HCS Classification Irritating material

Sensitizing material

Target organ effects

US. Federal regulation

TSCA 8(a) : Nonidet P-40 Substitute

TSCA 8(a) IUR Exempt/Partial exemption: No tdetermine

United States inventory (TSCA 8b) : All components are listed or exempted.

SARA 302/304/311/312 hazardous chemicals : Nonidet P-40 Substitute

Nonidet P-40 Substitute: Fire hazard, Immediate(acute) health hazard, Delayed (chronic) health hazard

WHMIS (canada) Class D-2B: Material causing other toxic effects (Toxic)

Canadian lists

Canadian NPRI The following components are listed: Octylphenol and ethoxylates

Canada inventory : All components are listed or exempted.

Korea inventory : All components are listed or exempted.

SECTION 16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall beused 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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