## 1- Product and Company Identification

| | |
|---|---|
| **Product Name** | **PBS X10, W/O MG&CA, STERILE** |
| **Reference number** | **BP507** |
| **Intended Use** | Laboratory chemical, buffer solution for biological and biochemical research. |
| **Restrictions on Use** | For laboratory and research use only. Not intended for human consumption, therapeutic use, injection, or diagnostic administration unless specifically validated and approved for such use |
| **Manufacturer** | **Hy-Laboratories Ltd.**<br>Park Tamar, Rehovot, 76326, Israel<br>Tel: 972-8-9366475<br>Fax: 972-8-9366474 |

## 2- HAZARDS IDENTIFICATION

**Classification of the substance or mixture**:

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008 (CLP) or OSHA HCS 29 CFR 1910.1200.

**GHS Label elements:**

The product does not require any hazard pictograms, signal words, or hazard statements.

**Precautionary Statements:**

None specifically required under GHS for the prepared solution.

**Other Hazards:**

Direct contact with eyes or prolonged skin exposure may cause mild, temporary irritation due to salt concentration.

Spillage may create slippery surfaces.

The product should be handled using normal laboratory hygiene practices.

## 3- COMPOSITION/INFORMATION ON INGREDIENTS

This product is a concentrated aqueous mixture of inorganic salts.

None of the ingredients are present in concentrations that qualify as health hazards under GHS disclosure criteria.

| Component | CAS No. | Formula | Concentration |
|---|---|---|---|
| Potassium dihydrogen phosphate | 0-77-7778 | $KH_2PO_4$ | 2.0g/L (0.2% w/v) |
| Disodium hydrogen phosphate dihydrate | 7-24-10028 | $Na_2HPO_4 \cdot 2H_2O$ | 27.2g/L (2.72% w/v) |
| Sodium chloride | 5-14-7647 | NaCl | 80.0g/L (8.0% w/v) |
| Potassium chloride | 7-40-7447 | KCl | 2.0g/L (0.2% w/v) |
| Water | 7732-18-5 | $H_2O$ | Balance |

## 4- First Aid Measures

**Description of First-Aid Measures**

**Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Obtain medical attention if irritation persists.

**Skin Contact:**

Wash affected area thoroughly with water and soap. Remove contaminated clothing. Obtain medical attention if irritation develops or persists.

**Inhalation:**

The product is an aqueous solution and is not expected to present an inhalation hazard under normal conditions. If aerosol or mist is inhaled, move the person to fresh air. Seek medical attention if symptoms occur.

**Ingestion:**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical advice if significant quantities are swallowed or symptoms occur.

**Most Important Symptoms and Effects**

No significant acute effects are expected under normal laboratory exposure conditions. Direct contact with the concentrated solution may cause mild eye or skin irritation.

**Immediate Medical Attention**

No specific treatment is normally required. Treat symptomatically.

## 5- Fire Fighting Measures

**Extinguishing Media**

Use extinguishing media appropriate for the surrounding fire:

- Water spray
- Foam
- Dry chemical
- Carbon dioxide

**Special Hazards**

The product is an aqueous, non-flammable solution.
No significant fire hazard is expected from the product itself.
Heating to dryness may produce irritating or potentially harmful decomposition products from inorganic phosphate salts. Phosphorus oxides, Hydrogen chloride gas, Potassium oxides, Sodium oxides may form under fire conditions.

**Protective Equipment for Firefighters**

Use standard firefighting protective equipment and self-contained breathing apparatus when required by the surrounding fire conditions.

## 6- Accidental Release Measures

**Personal Precautions:**

Use personal protective equipment PPE.
Avoid contact with eyes.
Avoid prolonged contact with skin.
Avoid breathing vapors, mist, or gas. Ensure adequate ventilation.
Caution: spilled solution may make surfaces slippery.

**Environmental Precautions:**

Prevent further leakage or spillage if safe to do so.
Do not let large amounts enter drains.

**Clean-up Methods**:

**For small spills:**

Soak up with inert absorbent material (sand, silica gel, acid binder).
Keep in suitable, closed containers for disposal.
Collect contaminated material into an appropriate waste container.
Clean the affected area with water.

**For large spills:**

contain the material and follow institutional/local waste-disposal procedures.

## 7- Handling and Storage

**Precautions for Safe Handling**

- Use good laboratory practices.
- Avoid eye contact.
- Avoid unnecessary prolonged skin contact.
- Do not ingest.
- Keep container closed when not in use.
- Prevent microbial or chemical contamination of the product.

**Conditions for Safe Storage**

Store in a clean, tightly closed container under the manufacturer's specified storage conditions.

**Recommended storage:** Room temperature or according to the validated product specification.

**Protect from:**

- Contamination
- Excessive heat
- Direct sunlight
- Freezing, where applicable

**Incompatible Materials**

Strong acids and strong bases should be avoided where unnecessary.

## 8- Exposure Controls, Personal Protection

**Occupational Exposure Limits**

No occupational exposure limits are established for the prepared PBS 10X solution.

**Engineering Controls**

Safety shower and eye bath. General industrial hygiene practice.
Normal laboratory ventilation is sufficient under normal use.

**Personal Protective Equipment**

**Eye Protection:**

Safety glasses or laboratory goggles.

**Hand Protection:**

Disposable laboratory gloves, such as nitrile gloves.

**Skin/Body Protection:**

Laboratory coat.

**Respiratory Protection:**
Not normally required during routine handling.

## 9- Physical and Chemical Properties

| Property | Description |
|---|---|
| Appearance | Clear, colorless aqueous solution |
| Physical State | Liquid |
| Odor | Odorless or essentially odorless |
| pH | Approx. 6.5–7.1 (concentrated 10X), can shifts to ~7.4 upon dilution to 1X<br>Typically approximately neutral to mildly alkaline; |
| Melting/Freezing Point | Approximately 0°C, depending on salt concentration |
| Boiling Point | Approximately 100°C |
| Flash Point | Not applicable |
| Flammability | Non-flammable |
| Vapor Pressure | Similar to water |
| Relative Density | Approximately 1.0–1.1 g/mL |
| Solubility | Completely miscible with water |
| Partition Coefficient | Not applicable |
| Auto-Ignition Temperature | Not applicable |
| Decomposition Temperature | Not determined |
| Viscosity | Similar to water |

## 10- Stability and Reactivity

**Stability**
Stable under recommended storage conditions.
May precipitate salts if stored at very cold temperatures; redissolve by warming gently.

**Reactivity**
No hazardous reactivity is expected under normal conditions of use.

**Possibility of Hazardous Reactions**
No hazardous polymerization or hazardous reactions are expected under normal laboratory conditions.

**Conditions to Avoid**
- Excessive heat
- Contamination
- Improper storage
- Evaporation to dryness

**Incompatible Materials**
Avoid unnecessary contact with strong acids and strong bases, and strong oxidizing agents.

**Hazardous Decomposition Products**
No hazardous decomposition products are expected during normal use.
Thermal decomposition or heating to dryness may generate irritating inorganic phosphate or chloride-containing decomposition products.

## 11- Toxicological Information

**Information on Toxicological Effects**

The prepared PBS 10X solution is not expected to present significant acute toxicity under normal laboratory exposure conditions.

**Acute Toxicity:**

Not expected to be acutely toxic based on the known properties and concentrations of the components. May cause mild transient irritation to sensitive tissues.

**Skin Corrosion/Irritation:**

Prolonged or repeated contact may cause mild irritation.

**Serious Eye Damage/Eye Irritation:**

Direct contact may cause mild temporary irritation.

**Respiratory Sensitization:**

Not expected.

**Skin Sensitization:**

Not expected.

**Germ Cell Mutagenicity:**

Not expected based on available information.

**Carcinogenicity:**

Not classified as carcinogenic based on the information available for the components.

**Reproductive Toxicity:**

Not expected based on the composition.

**STOT – Single Exposure:**

No significant effects expected under normal laboratory use.

**STOT – Repeated Exposure:**

No significant effects expected under normal laboratory use.

**Aspiration Hazard:**

Not applicable to an aqueous solution.

## 12- Ecological Information

**Ecotoxicity**

No significant ecological hazard is expected from small quantities of the prepared solution.

**Persistence and Degradability**

The product consists primarily of water and inorganic salts. Biodegradation is not applicable to the inorganic components.

**Bioaccumulative Potential**

No significant bioaccumulation is expected.

**Mobility in Soil**

The inorganic salts are highly soluble in water and may be mobile in the environment.

**PBT/vPvB Assessment**

Not applicable.

**Other Adverse Effects**

No significant adverse environmental effects are expected when used appropriately.

## 13- Disposal Information

Dispose of the product and contaminated packaging according to applicable local, regional and national regulations.

**Small quantities** of uncontaminated PBS may generally be disposed of as non-hazardous aqueous laboratory waste where permitted.

**Important:** If the PBS has been used with biological samples, microorganisms, clinical specimens, hazardous chemicals, or other regulated materials, it must be disposed of according to the applicable waste classification and institutional procedures.

Do not reuse empty containers for other purposes unless appropriately cleaned and validated.

## 14- Transport Information

**DOT (US) / IMDG / IATA:** Not regulated as a dangerous good for transport.

| | |
|---|---|
| **UN Number** | Not regulated as dangerous goods. |
| **UN Proper Shipping Name** | Not regulated. |
| **Transport Hazard Class** | Not applicable. |
| **Packing Group** | Not applicable. |
| **Environmental Hazards** | Not classified as environmentally hazardous for transport. |
| **ADR/RID** | Not regulated as dangerous goods. |
| **IMDG** | Not regulated as dangerous goods. |
| **IATA** | Not regulated as dangerous goods. |

## 15- Regulatory Information

**Safety, Health and Environmental Regulations**

The prepared PBS 10X solution is not expected to be classified as a hazardous mixture under the GHS/CLP classification criteria based on the stated composition.
The individual raw materials are commercially supplied laboratory reagents.

**GHS Classification**

Not classified as hazardous.

**EU CLP Regulation (EC) No. 1272/2008**

No hazardous classification is expected for the prepared solution based on the stated composition.

**REACH**

No specific restriction is expected for the prepared aqueous PBS solution based solely on the listed components.

**OSHA Hazard Communication Standard**

Not expected to meet the criteria for classification as a hazardous chemical when supplied as the prepared PBS 10X solution.

## 16- Other Information

**Abbreviations**

PBS: Phosphate Buffered Saline
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
CLP: Classification, Labelling and Packaging
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulations concerning International Carriage of Dangerous Goods by Rail
IMDG: International Maritime Dangerous Goods
IATA: International Air Transport Association
PPE: Personal Protective Equipment
SDS: Safety Data Sheet

This SDS does not constitute a specification or certificate of analysis.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**For In-Vitro use only.**
**Disclaimer**
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.