Safety Data Sheet

Cat. # 786-027

PBS, Phosphate Buffered Saline

Size: 500ml
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Mixture
Product name: Phosphate Buffered Saline (PBS) [10X]
Product code: P020, 020P, 312P
Product group: Raw material

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses
No additional information available

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
63132-1429 Saint Louis - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
No labelling applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deionized water</td>
<td>(CAS-No.) 7732-18-5</td>
<td>&gt;= 80</td>
<td>Not classified</td>
</tr>
<tr>
<td>sodium chloride</td>
<td>(CAS-No.) 7647-14-5 (EC-No.) 231-598-3</td>
<td>5 - 10</td>
<td>Not classified</td>
</tr>
<tr>
<td>Sodium Phosphate (Dibasic)</td>
<td>(CAS-No.) 7558-79-4 (EC-No.) 231-445-7</td>
<td>0.5 - 2</td>
<td>Not classified</td>
</tr>
<tr>
<td>Potassium Phosphate (Monobasic)</td>
<td>(CAS-No.) 7778-77-0 (EC-No.) 231-913-4</td>
<td>0.05 - 0.5</td>
<td>Not classified</td>
</tr>
<tr>
<td>potassium chloride</td>
<td>(CAS-No.) 7447-40-7 (EC-No.) 231-211-8</td>
<td>0.05 - 0.5</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact: Wash skin with plenty of water.
First-aid measures after eye contact: Rinse eyes with water as a precaution.
First-aid measures after ingestion: Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media


5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire: Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures: Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Take up liquid spill into absorbent material.
Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

Hand protection:
Protective gloves
Phosphate Buffered Saline (PBS) [10X]

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products.
## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

### Potassium Chloride (7447-40-7)

- **LD50 oral rat**: 3020 mg/kg bodyweight (Rat, Female, Experimental value)

### Sodium Chloride (7647-14-5)

- **LD50 oral rat**: > 3980 mg/kg bodyweight (Rat, Experimental value)
- **LD50 dermal rabbit**: > 10000 mg/kg (Rabbit, Experimental value)
- **LC50 inhalation rat (mg/l)**: > 42 mg/l air (1 h, Rat, Male, Experimental value)

### Sodium Phosphate (Dibasic) (7558-79-4)

- **LD50 oral rat**: 17000 mg/kg (Rat)
- **LD50 dermal rat**: > 7940 mg/kg (Rat)

### Potassium Phosphate (Monobasic) (7778-77-0)

- **LD50 oral rat**: 7100 mg/kg (Rat)
- **LD50 dermal rabbit**: > 4640 mg/kg (Rabbit)

### Skin corrosion/irritation

- Not classified

### Serious eye damage/irritation

- Not classified

### Respiratory or skin sensitisation

- Not classified

### Germ cell mutagenicity

- Not classified

### Carcinogenicity

- Not classified

### Reproductive toxicity

- Not classified

### STOT-single exposure

- Not classified

### STOT-repeated exposure

- Not classified

### Aspiration hazard

- Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Ecology - general

The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

#### Acute aquatic toxicity

- Not classified

#### Chronic aquatic toxicity

- Not classified

### Potassium Chloride (7447-40-7)

- **LC50 fish 1**: 2010 mg/l (96 h, Lepomis macrochirus, Static system)
- **EC50 72h algae (1)**: 660 mg/l (EPA 600/4-90/027, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)
- **ErC50 (algae)**: > 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value)

### Sodium Chloride (7647-14-5)

- **LC50 fish 1**: 5840 mg/l (ASTM, 96 h, Lepomis macrochirus, Flow-through system, Fresh water, Experimental value)

### Sodium Phosphate (Dibasic) (7558-79-4)

- **LC50 fish 1**: > 2400 mg/l (OECD 203: Fish, Acute Toxicity Test, 48 h, Leuciscus idus)

### Potassium Phosphate (Monobasic) (7778-77-0)

- **LC50 fish 1**: > 900 mg/l (48 h, Leuciscus idus)

### 12.2. Persistence and degradability

#### Potassium Chloride (7447-40-7)

- **Persistence and degradability**: Biodegradability: not applicable.
### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Component</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>potassium chloride (7447-40-7)</td>
<td>Log Pow: -0.46 (Estimated value)</td>
</tr>
<tr>
<td>sodium chloride (7647-14-5)</td>
<td>Log Pow: -3 (Calculated)</td>
</tr>
<tr>
<td>Sodium Phosphate (Dibasic) (7558-79-4)</td>
<td>Bioaccumulative potential</td>
</tr>
<tr>
<td>Potassium Phosphate (Monobasic) (7778-77-0)</td>
<td>Bioaccumulative potential</td>
</tr>
</tbody>
</table>

**12.4. Mobility in soil**

<table>
<thead>
<tr>
<th>Component</th>
<th>Ecology - soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>potassium chloride (7447-40-7)</td>
<td>No (test)data on mobility of the substance available.</td>
</tr>
<tr>
<td>sodium chloride (7647-14-5)</td>
<td>Surface tension: 73.03 mN/m (23 °C, 14.5 g/l)</td>
</tr>
</tbody>
</table>

**12.5. Results of PBT and vPvB assessment**

<table>
<thead>
<tr>
<th>Component</th>
<th>Criteria met/pvB criteria met</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium chloride (7647-14-5)</td>
<td>This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII</td>
</tr>
<tr>
<td>potassium chloride (7447-40-7)</td>
<td>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII</td>
</tr>
</tbody>
</table>

**12.6. Other adverse effects**

No additional information available.

### SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

Section 14: Transport information

14.1. UN number

| UN-No. (ADR) | Not regulated |
| UN-No. (IMDG) | Not regulated |
| UN-No. (IATA) | Not regulated |
| UN-No. (ADN) | Not regulated |
| UN-No. (RID) | Not regulated |

14.2. UN proper shipping name

| Proper Shipping Name (ADR) | Not regulated |
| Proper Shipping Name (IMDG) | Not regulated |
| Proper Shipping Name (IATA) | Not regulated |
| Proper Shipping Name (ADN) | Not regulated |
| Proper Shipping Name (RID) | Not regulated |

14.3. Transport hazard class(es)

| ADR | Transport hazard class(es) (ADR) | Not regulated |
| IMDG | Transport hazard class(es) (IMDG) | Not regulated |
| IATA | Transport hazard class(es) (IATA) | Not regulated |
| ADN | Transport hazard class(es) (ADN) | Not regulated |
| RID | Transport hazard class(es) (RID) | Not regulated |

14.4. Packing group

| Packing group (ADR) | Not regulated |
| Packing group (IMDG) | Not regulated |
| Packing group (IATA) | Not regulated |
| Packing group (ADN) | Not regulated |
| Packing group (RID) | Not regulated |

14.5. Environmental hazards

| Dangerous for the environment | No |
| Marine pollutant | No |
| Other information | No supplementary information available |

14.6. Special precautions for user

- Overland transport
  Not regulated

- Transport by sea
  Not regulated

- Air transport
  Not regulated

- Inland waterway transport
  Not regulated

- Rail transport
  Not regulated

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable
Phosphate Buffered Saline (PBS) [10X]
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

- Contains no REACH substances with Annex XVII restrictions
- Contains no substance on the REACH candidate list
- Contains no REACH Annex XIV substances

#### 15.1.2. National regulations

No additional information available

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

### SECTION 16: Other information

Safety Data Sheet applicable for regions: GB - United Kingdom

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.