POTASSIUM PHOSPHATE

Product Information

Chemical name: Potassium Phosphate, Monobasic, Anhydrous (> 99%)
Syn.: potassium phosphate monobasic, Monopotassium phosphate, Potassium dihydrogen phosphate
Cat. Number: 684481, 500g 684482, 1 Kg, 684483, 2.5 Kg
CAS number: 7778-77-0 EC number: 231-913-4
Structure: KH₂PO₄
Molecular Weight: 136.09
Typical Data:
- Purity > 99.0%
- Chloride < 0.001%
- Heavy Metals (as Pb) < 0.001%
- Insolubles < 0.01%
- Iron < 0.002%
- Loss on drying < 0.2%
- Nitrogen compounds < 0.001%
- pH (5%, water, 25°C) 4.1-4.5
- Sodium < 0.005%
- Sulfate < 0.003%

Storage: Room temperature

Safety:
Hazard Statements: H315 / H319 / H335
Precautionary Statements: P280 / P302+P352 / P304+P340 / P305+P351+P338
Hazard Code: gs07 UN Number: NONE

Applications: Suitable for most biochemistry and biotechnology applications (purification, analysis).

Technical Information

- Le Potassium Phosphate is a salt that gives in solution
  the dihydrogénophosphate of monopotassic potassium (H₂PO₄⁻, K⁺),
  the hydrogénophosphate of dipotassic potassium (HPO₄²⁻, 2K⁺),
  the phosphate of tripotassic potassium (PO₄³⁻, 3K⁺).

Phosphates have a very high buffering capacity and are highly soluble in water. They are widely used, despite a number of potential disadvantages:
- Phosphates inhibit many enzymatic reactions and procedures that are the foundation of molecular cloning, including cleavage of DNA by many restriction enzymes, ligation of DNA, and bacterial transformation.
- Because phosphates precipitate in ethanol, it is not possible to precipitate DNA and RNA from buffers that contain significant quantities of phosphate ions.
- Phosphates sequester divalent cations such as Ca²⁺ and Mg²⁺

Gomori buffers, the most commonly used phosphate buffers, consist of a mixture of monobasic dihydrogen phosphate and dibasic monohydrogen phosphate. By varying the amount of each salt, a range of buffers can be prepared that buffer well between pH 5.8 and pH 8.0 (table below).
**Prepare mother solutions:**

0.5L of 1M K₂HPO₄ at 174.18g mol⁻¹ = 87.09g
0.5L of 1M KH₂PO₄ at 136.09g mol⁻¹ = 68.045g

**Preparation of 0.1 M potassium phosphate buffer at 25°C**

<table>
<thead>
<tr>
<th>pH</th>
<th>Volume of 1M⁻¹ (ml)</th>
<th>Volume of 1M⁻¹ (ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.8</td>
<td>8.5</td>
<td>91.5</td>
</tr>
<tr>
<td>6.0</td>
<td>13.2</td>
<td>86.8</td>
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<tr>
<td>6.2</td>
<td>19.2</td>
<td>80.8</td>
</tr>
<tr>
<td>6.4</td>
<td>27.8</td>
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<td>6.6</td>
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<td>90.8</td>
<td>9.2</td>
</tr>
<tr>
<td>8.0</td>
<td>94.0</td>
<td>6.0</td>
</tr>
</tbody>
</table>

**Ordering information**

Catalog size quantities and prices may be found at [http://www.interchim.com](http://www.interchim.com).

Please inquire for higher quantities (availability, shipment conditions).

For any information, please ask: Uptima / Interchim; Hotline: +33(0)4 70 03 73 06

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