Sodium phosphate dibasic

Product Number S 9763
Store at Room Temperature

Product Description
Molecular Formula: \( \text{Na}_2\text{HPO}_4 \)
Molecular Weight: 142.0
CAS Number: 7558-79-4

This product is designated as ACS Reagent grade, and meets the specifications of the American Chemical Society (ACS) for reagent chemicals.

Sodium phosphate is a reagent with very high buffering capacity that is widely used in molecular biology, biochemistry, and chromatography. Sodium phosphate occurs in several forms: monobasic (\( \text{NaH}_2\text{PO}_4 \)), dibasic (\( \text{Na}_2\text{HPO}_4 \)), and tribasic (\( \text{Na}_3\text{PO}_4 \)). Most neutral sodium phosphate buffer solutions consist of mixtures of the monobasic and dibasic forms to varying degrees, depending on the desired pH. A table for preparation of 0.1 M sodium phosphate buffer at 25 °C using various proportions of sodium phosphate monobasic and sodium phosphate dibasic has been published.¹

Some limitations of the usefulness of phosphate buffers include their precipitation of \( \text{Ca}^{2+} \) and \( \text{Mg}^{2+} \), their inhibition of restriction enzyme activity, and their interference in protocols related to DNA ligation and bacterial transformation.² A study of the effect of freeze-thaw storage cycles on proteins in sodium phosphate and potassium phosphate buffer solutions has been reported.³ The effect of 5 mM sodium phosphate on the efficacy of electrospray ionization (ESI) ion mobility spectrometry (IMS) analysis has been evaluated.⁴

A protocol for the purification of pyrogen-free mouse IgG1 monoclonal antibodies which uses 10 mM sodium phosphate (pH 7.4) has been published.⁴ An ion-pairing HPLC method for the analysis of 5-aminosalicylic acid has been reported.⁵ A TLC method for separation of nucleotide sugars in the study of glycosyltransferase activity has been published.⁶

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions
This product is soluble in water (100 mg/ml), yielding a clear, colorless solution.

References

7. The Merck Index, 12th ed., Entry# 8806.