Phosphate Buffer Solution Preparation

McIlvaine buffer McIlvaine buffer is a buffer solution composed of citric acid and disodium hydrogen phosphate, also known as citrate-phosphate buffer. It was introduced in 1921 by the United States agronomist Theodore Clinton McIlvaine (1875–1959) from West Virginia University, and it can be prepared in pH 2. It was introduced McIlvaine buffer is a buffer solution composed of citric acid and disodium hydrogen phosphate, also known as citrate-phosphate buffer. 2 to 8 by mixing two stock solutions 8632c597ba

It has been used experimentally, for instance to study arteries ex vivo, in Langendorff heart preparations, and during isolated muscle testing of mammalian skeletal muscles. 8632c597ba
Calcium acetate It has the formula Ca(C2H3O2)2. An older name is acetate of lime. The anhydrous form is very hygroscopic; therefore the monohydrate (Ca(CH3COO)2•H2O) is the common form. Its standard name is calcium acetate, while calcium ethanoate is the systematic name. levels of phosphate may rise (called hyperphosphatemia) leading to bone problems. Calcium acetate binds phosphate in the diet to lower blood phosphate levels Calcium acetate is a chemical compound which is a calcium salt of acetic acid 8632c597ba

MES (buffer) 2 g/mol and the chemical formula is C6H13NO4S. 15 at 20 °C. MOPS is a similar pH buffering compound which contains a propanesulfonic moiety instead of an ethanesulfonic one. It has a molecular weight of 195. The pH (and pKa at ionic strength I?0) of the buffer solution changes with concentration and temperature, and this effect may be MES (2-(N-morpholino)ethanesulfonic acid) is a chemical compound that contains a morpholine ring. Synonyms include: 2-morpholinoethanesulfonic acid; 2-(4-morpholino)ethanesulfonic acid; 2-(N-morpholino)ethanesulfonic acid; 2-(4-morpholino)ethanesulfonic acid; MES; MES hydrate; and morpholine-4-ethanesulfonic acid hydrate. value of 6 8632c597ba

In the United States, the FDA and CDC publish... 8632c597ba
Krebs–Henseleit solution (August 1978). Journal of Pharmacological Methods. Seok D. Krebs–Henseleit solution, developed by Hans Krebs and Kurt Henseleit, is a solution containing sodium (Na), potassium (K), chloride (Cl), calcium (Ca), magnesium sulfate (MgSO4), bicarbonate (HCO3), phosphate (PO4), glucose, and sometimes supplemented with albumin, and tromethamine (THAM). "Krebs-Henseleit solution as a physiological buffer in perfused and superfused preparations" 8632c597ba

In medicine, balanced salt solutions can be used as an irrigation solution such as during intraocular surgery and to replace intraocular fluids. 8632c597ba
Phosphate-buffered saline 4) commonly used in biological research. The buffer helps to maintain a constant pH. The osmolarity and ion concentrations of the solutions are isotonic, meaning they match those of the human body. Phosphate-buffered saline (PBS) is a buffer solution (pH ~ 7. 4) commonly used in biological research. It is a water-based salt solution containing disodium hydrogen phosphate, sodium chloride and, in some formulations, potassium chloride and potassium dihydrogen phosphate. It is a water-based salt solution containing disodium Phosphate-buffered saline (PBS) is a buffer solution (pH ~ 7 8632c597ba

Balanced salt solution They provide the cells with water and inorganic ions, while maintaining a physiological pH and osmotic pressure. balanced salt solution (EBSS) Gey's balanced salt solution (GBSS) Hanks' balanced salt solution (HBSS) (Dulbecco's) Phosphate buffered saline (PBS) Puck's A balanced salt solution (BSS) is a solution made to a physiological pH and isotonic salt concentration. Solutions most commonly include sodium, potassium, calcium, magnesium, and chloride. Balanced salt solutions are used for washing tissues and cells and are usually combined with other agents to treat the tissues and cells 8632c597ba

Good's buffers Before Good's work, few hydrogen ion buffers between pH 6 and 8 had been accessible to biologists, and very inappropriate, toxic, reactive and inefficient buffers had often been used. All buffering agents achieve their function because they contain an acidic group (acetate, phosphate, sulphonate. Many Good's buffers became and remain crucial tools in modern biological laboratories. Most of the buffers were new zwitterionic compounds prepared and tested by Good and coworkers for the first time, though some (MES, ADA, BES, Bicine) were known compounds previously overlooked by biologists. more were added in 1980.) or a basic Good's buffers (also Good buffers) are twenty buffering agents for biochemical and biological research selected and described by Norman Good and colleagues during 1966–1980 8632c597ba

Viral transport medium Unless stored in an ultra low temperature freezer or in liquid nitrogen, virus samples, and especially RNA virus samples, are prone to degradation. VTM must be sterile to avoid introducing contamination to the specimen. Chemical components may include saline solution, phosphate-buffered saline (PBS), or fetal bovine serum (FBS). However, such cooling equipment is seldom available in the field due to their cumbersome size, weight, and in the case of freezers, high energy consumption. ambient temperature. Hence, there is a need for VTM; a chemical preservative that can be used at ambient temperature. VTM must be sterile Viral transport medium (VTM) is a solution used to preserve virus specimens after collection so that they can be transported and analysed in a laboratory at a later time. Chemical components may include saline solution, phosphate-buffered saline (PBS), or fetal bovine serum (FBS) 8632c597ba

Lysis buffer A lysis buffer is a buffer solution used for the purpose of breaking open cells for use in molecular biology experiments that analyze the labile macromolecules A lysis buffer is a buffer solution used for the purpose of breaking open cells for use in molecular biology experiments that analyze the labile macromolecules of the cells (e. Most lysis buffers contain buffering salts (e. western blot for protein, or for DNA extraction). g. g. g. For lysis buffers targeted at protein extraction, protease inhibitors are often included, and in difficult cases may be almost required. Sometimes detergents (such as Triton X-100 or SDS) are added to break up membrane structures. Tris-HCl) and ionic salts (e. NaCl) to regulate the pH and osmolarity of the lysate. Lysis buffers can be used on both animal and plant tissue cells 8632c597ba

Paraformaldehyde Paraformaldehyde commonly has a slight odor of formaldehyde due to decomposition. Paraformaldehyde is a poly-acetal. In cell culture, a typical formaldehyde fixing procedure would involve using a 4% formaldehyde solution in phosphate buffered saline Paraformaldehyde (PFA) is the smallest polyoxymethylene, the polymerization product of formaldehyde with a typical degree of polymerization of 8–100 units. formaldehyde in solution 8632c597ba

Sometimes glucose is added as an energy source and phenol red is used as a pH indicator. 8632c597ba