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Technical Datasheet

Phosphate Buffered Saline, pH 7.4

With 1gm/litre Glucose and Phenol red
Without Calcium, Magnesium and Sodium bicarbonate

Product Code: TS1150

Product Description:

All media used in tissue culture have a basis of a synthetic mixture of inorganic salts known as a physiological or balanced salt solution (BSS). All the physiological salt solutions have been derived from the salt solution originally described by Sydney Ringer (1885). The first balanced salt solution to be developed specifically for supporting the metabolism of mammalian cells was Tyrode's solution. Since then many modifications have been done to obtain better buffering salt solutions and to prevent calcium precipitation.

The function of a salt solution is:
To maintain the medium within physiological pH range.

- To maintain intracellular and extra cellular osmotic balance.
- Modified with a carbohydrate, such as glucose serves as an energy source for cell metabolism. Phosphate Buffered Saline, pH 7.4 is most commonly used for tissue disaggregation and monolayer dispersal since presence of Calcium and Magnesium ions may hinder the trypsin activity.

TS1150 is Phosphate Buffered Saline, pH 7.4 with 1gm per litre Glucose and Phenol red. It does not contain Calcium, Magnesium and Sodium bicarbonate

Composition:

Ingredients	mg/L
INORGANIC SALTS	
Disodium hydrogen phosphate, anhydrous	795.000
Potassium dihydrogen phosphate, anhydrous	144.000
Sodium chloride	9000.000
OTHERS	
D-Glucose	1000.000
Phenol red sodium salt	11.000

Directions:

1. Suspend 10.95 gms in 900 ml tissue culture grade water with constant, gentle stirring until the powder is completely dissolved. Do not heat the water. Stir until dissolved.
2. Adjust the pH to 0.2-0.3 pH units below the desired pH using 1N HCl or 1N NaOH since the pH tends to rise during filtration.
3. Make up the final volume to 1000ml with tissue culture grade water.
4. Sterilize the solution immediately by filtering through a sterile membrane filter with a porosity of 0.22 micron or less, using positive pressure rather than vacuum to minimize the loss of carbon dioxide.
5. Aseptically dispense the desired amount of sterile solution into sterile containers.
6. Store the liquid solution at ambient temperature and in dark till use.

Material required but not provided:

Tissue culture grade water (TCL010)
1N Hydrochloric acid (TCL003)
1N Sodium hydroxide (TCL002)

Quality Control:

Appearance
White to light pink, homogenous powder.

Solubility
Clear solution at 10.95 gms/L

pH
7.30 -7.50

Osmolality (mOsm/Kg H_2O)
305.00 -345.00

Toxicity test
Passes

Endotoxin content
NMT 1EU/ml

Storage and Shelf Life:

1. All powdered salt mixtures and prepared salt solutions should be stored at ambient temperature. Use before the expiry date. In spite of above recommended storage condition certain powdered salts may show some signs of deterioration / degradation in certain instances. This can be indicated by change in colour, change in appearance and presence of particulate matter and haziness after dissolution.
2. Preparation of concentrated solutions is not recommended as salt complexes having low solubility may precipitate in concentrated solutions.
3. If desired, sterile supplements can be added to the sterile solution observing all sterility precautions. Shelf life of the solution will depend on the nature of supplements added to the solution.