

# Dulbecco's Phosphate Buffered Saline

**With Calcium and Magnesium  
Without Phenol red**

**Product Code: TS1119**

## 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.

TS1119 is Dulbecco's Phosphate Buffered Saline with Calcium and Magnesium. It does not contain phenol red.

## Composition:

Ingredients	mg/L
<b>INORGANIC SALTS</b>	
Calcium chloride dihydrate	133.000
Disodium hydrogen phosphate	1150.000
Magnesium chloride hexahydrate	100.000
Potassium chloride	200.000
Potassium phosphate, monobasic	200.000
Sodium chloride	8000.000

## Directions:

1. Suspend 9.8gms in 900 ml tissue culture grade water with constant, gentle stirring. Do not heat the water.
2. It is necessary to lower the pH to 3.00 with 1N HCL to dissolve the powder completely.
3. Once the powder is completely dissolved, adjust the pH to 0.2-0.3 pH units below the desired pH using 1N NaOH since the pH tends to rise during filtration.

4. Make up the final volume to 1000ml with tissue culture grade water.
5. Sterilize the solution immediately by filtering through a sterile membrane filter with porosity of 0.22 micron or less, using positive pressure rather than vacuum to minimize the loss of carbon dioxide.
6. Aseptically dispense the desired amount of sterile solution into sterile containers.
7. 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

Off-white to creamish white homogenous powder

### Solubility

Clear solution at 9.8gms/L

### pH

7.00 -7.60

### Osmolality (mOsm/ Kg H<sub>2</sub>O)

280.00 -320.00

### Toxicity test

Passes

### Endotoxin content

NMT 1EU/ml

## Storage and Shelf Life:

1. All the 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.

### Disclaimer :

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