

Technical Information

Krebs-Henseleit Buffer w/ 2gms Glucose per liter w/o Calcium chloride and Sodium bicarbonate

Product Code: TS2148

Application: Krebs-Henseleit buffer was developed by Hans Krebs and Kurt Henseleit in early 1930s which is a modification of Ringer's solution. It has been widely used for maintaining tissues in vitro. TS2148 is Krebs-Henseleit buffer with 2 gms Glucose per litre. It does not contain Calcium chloride and Sodium bicarbonate.

Composition**

Ingredients	mg/Litre
INORGANIC SALTS	
Sodium chloride	6900.000
Magnesium sulfate anhydrous	141.000
Potassium chloride	350.000
Potassium phosphate monobasic	160.000
OTHERS	
D-Glucose	2000.000

Methodology

1. Suspend 9.6 gms in 900ml tissue culture grade water with constant, gentle stirring until the powder is completely dissolved. Do not heat the water.
2. Add 2.1 gms of Sodium bicarbonate powder or 28 ml of 7.5% Sodium bicarbonate solution (TCL013) for 1 litre of solution and stir until dissolved.
3. 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.
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 a 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 (TCL1010)
Sodium bicarbonate (TC1230)
Sodium bicarbonate Solution (TCL1013)
1N Hydrochloric acid (TCL1003)
1N Sodium hydroxide (TCL1002)

Quality Control

Appearance

Off-white to Creamish white, homogenous powder

Solubility

Clear solution at 9.6 gms/L

pH without Sodium Bicarbonate

4.90 -5.50

pH with Sodium Bicarbonate

7.40 -8.00

Osmolality without Sodium Bicarbonate(mOsm/Kg H₂O)

240.00 -280.00

Osmolality with Sodium Bicarbonate(mOsm/Kg H₂O)

260.00 -300.00

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.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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