

Technical Information

0.5M EGTA Solution, pH 8.0

Product Code:TCL1188

Introduction: A 0.5 M EGTA solution at pH 8.0 is prepared by dissolving 19.02 g of EGTA Free acid in deionized water, adjusting the pH to 8.0 using sodium hydroxide (NaOH) or potassium hydroxide (KOH), and bringing the final volume to 100ml.

Description:

1. Measure about 80ml of deionized water and place it in a beaker with a magnetic stir bar.
2. Add 19.02 g of EGTA powder while stirring (the solution will remain milk/cloudy because EGTA free acid does not dissolve well at acidic or neutral pH).
3. Slowly add solid NaOH pellets or concentrated KOH dropwise while monitoring the pH with a calibrated pH meter.
4. Continue mixing (and apply gentle heat if necessary) until the EGTA completely goes into solution as the pH rises toward 8.0.
5. Allow the solution to cool to room temperature, verify that the final pH is precisely 8.0 and transfer it to a volumetric flask.
6. Add remaining deionized water to adjust the final volume to 100 ml, then filter sterilize if required.

Composition:

- **EGTA (Ethylene glycol-bis (2-aminoethylether)-N,N,N,'N'-tetraacetic acid) :** 19.02g (to achieve 0.5M concentration; Molecular weight 380.35g/mol)
- **NaOH or KOH :** ~4g to over 4g of solid pellets (or concentrated solution) added gradually until the insoluble EGTA free acid completely dissolves and reaches pH 8.0
- **Water (Distilled or Deionized) :** Quantity sufficient (Q.S.) to 100 ml total volume

Methodology

- Measure about 80 ml of deionized water and place it in a beaker with a magnetic stir bar.
- Add 19.02g OF EGTA powder while stirring (the solution will remain milky/cloudy because EGTA free acid does not dissolve well at acidic or neutral pH)
- Slowly add solid NaOH pellets or concentrated KOH dropwise while monitoring the pH with a calibrated pH meter.
- Continue mixing (and apply gentle heat if necessary) until the EGTA completely goes into solution as the pH rises toward 8.0
- Allow the solution to cool to room temperature, verify that the final pH is precisely 8.0, and transfer it to a volumetric flask.
- Add remaining deionized water to adjust the final volume to 100 ml, the filter sterilize if required.

Quality control

Appearance

Colorless, clear solution.

Solubility

Free EGTA acid does not dissolve well in water until the pH is raised significantly (around pH 8.0). NaOH pellets or concentrated solution are added to adjust the pH and bring EGTA into solution

Clarity

Clear and cleaning

pH

8.0

Sterility

No bacterial or fungal growth observed after 14 days of incubation, as per USP specification.

Sterilization

Typically filter-sterilized through a 0.22 μ m membrane for biological work.

Storage and Shelf Life

Keep at room temperature or cool/refrigerated depending on supplier instruction. If sterility or preservation is required for long- term cell culture work.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conforms solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate.
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