

Product Information

Minimum Essential Medium (MEM)

with Earle's Salts, with L-Glutamine, w/o NEAA, w/o Sodium Bicarbonate

Cat. No.: MEM-A-P10 (10 l), MEM-A-P50 (50 l)

Product Specifications

| | |
|---|--|
| Appearance | Off-white to creamy white, homogenous powder |
| Solubility | Clear solution at 9.6 g/l |
| pH w/o Sodium Bicarbonate | 5.60 – 6.20 |
| pH with Sodium Bicarbonate | 7.30 – 7.90 |
| Osmolality w/o Sodium Bicarbonate | 230 – 270 mOsm/kg |
| Osmolality with Sodium Bicarbonate | 285 – 325 mOsm/kg |
| Endotoxin | < 5 EU/ml |
| Cell Culture | Tested |
| Storage | +2°C to +8°C, dry and protected from light |
| Use at | 9.6 g/l |
| Add | 2.2 g/l Sodium Bicarbonate |
| CO ₂ concentration optimum for liquid medium | 5.0 % |

Instructions for Use: Preparation of 1 liter liquid medium

1. Suspend 9.6 g in 900 ml tissue culture grade water with constant, gentle stirring until the powder is completely dissolved. Do not heat the water.
2. Add 2.2 g of sodium bicarbonate powder or 49.3 ml of 7.5 % sodium bicarbonate solution for 1 liter of medium and stir until dissolved.
3. Adjust the pH to 0.2 to 0.3 pH units below the desired pH using 1 N HCl or 1 N 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 medium 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 add sterile supplements as required and dispense the desired amount of sterile medium into sterile containers.
7. Store liquid medium at +2°C to +8°C and in dark until use.

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Formulation

| Components | mg/l | Vitamins | |
|--------------------------------------|--------|---------------------------------------|---------|
| Amino Acids | | Choline Chloride | 1.00 |
| L-Arginine x HCl | 126.00 | D-Calcium Pantothenate | 1.00 |
| L-Cystine x 2 HCl | 31.30 | Folic Acid | 1.00 |
| L-Glutamine | 292.00 | myo-Inositol | 2.00 |
| L-Histidine x HCl x H ₂ O | 42.00 | Nicotinamide | 1.00 |
| L-Hydroxy-L-Proline | 20.00 | Pyridoxal x HCl | 1.00 |
| L-Isoleucine | 52.00 | Riboflavin | 0.10 |
| L-Leucine | 52.00 | Thiamine x HCl | 1.00 |
| L-Lysine x HCl | 72.50 | Inorganic Salts | |
| L-Methionine | 15.00 | Calcium Chloride x 2 H ₂ O | 265.00 |
| L-Phenylalanine | 32.00 | Magnesium Sulfate Anhydrous | 97.72 |
| L-Threonine | 48.00 | Potassium Chloride | 400.00 |
| L-Tryptophan | 10.00 | Sodium Chloride | 6800.00 |
| L-Tyrosine x 2 Na | 51.90 | Sodium Dihydrogen Phosphate Anhydrous | 122.00 |
| L-Valine | 46.00 | Other Components | |
| | | D-Glucose | 1000.00 |
| | | Phenol Red Sodium Salt | 11.00 |

Additional Information

- Preparation of concentrated medium is not recommended since free base amino acids and salt complexes having low solubility may precipitate in concentrated medium.
- pH and sodium bicarbonate concentration of the prepared medium are critical factors affecting cell growth. This is also influenced by amount of medium and volume of culture vessel used (surface to volume ratio). For example, in large bottles pH tends to rise perceptibly as significant volume of carbon dioxide is released. Therefore, optimal conditions of pH, sodium bicarbonate concentration, surface to volume ratio must be determined for each cell type. We recommend stringent monitoring of pH. If needed, pH can be adjusted by using sterile 1 N HCl or 1 N NaOH or by bubbling in carbon dioxide.
- If required, supplements can be added to the medium prior to or after filter sterilization observing sterility precautions. Shelf life of the medium will depend on the nature of supplement added to the medium.

Precautions and Disclaimer

This product is for research use only. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

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Help needed?

If you have any further questions regarding this product please do not hesitate to contact our cell culture experts:

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