

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 (10L), MEM-A-P50 (50L)

Product Specifications

Appearance	Off-white to creamy white, homogenous powder
CO ₂ concentration optimum for liquid medium	5.0 %
Storage and shelf life	Store at +2°C to +8°C, dry and protected from light. Please refer to product label for expiration date.
Shipping conditions	Ambient
Use at	9.71 g/L
Add	2.2 g/L Sodium Bicarbonate

Instructions for Use

Preparation of 1 liter liquid medium

- Suspend 9.71 g in 900 ml cell culture grade water with constant, gentle stirring until the powder is completely dissolved. Do not heat the water.
- Add 2.2 g of sodium bicarbonate powder or 29.3 ml of 7.5 % sodium bicarbonate solution for 1 liter of medium and stir until dissolved.
- 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.
- Add cell culture grade water up to the final volume of 1000 ml.
- 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.
- Aseptically add sterile supplements as required and dispense the desired amount of sterile medium into sterile containers.
- Store liquid medium at +2°C to +8°C and in dark until use.

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.

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Formulation

Components	Concentration mg/L
Amino Acids:	
L-Arginine HCl	126.00
L-Cystine 2 HCl	31.30
L-Glutamine	292.00
L-Histidine HCl H ₂ O	42.00
L-Isoleucine	52.00
L-Leucine	52.00
L-Lysine HCl	72.50
L-Methionine	15.00
L-Phenylalanine	32.00
L-Threonine	48.00
L-Tryptophan	10.00
L-Tyrosine 2 Na 2 H ₂ O	51.90
L-Valine	46.00

Components	Concentration mg/L
Vitamins:	
Choline Chloride	1.00
D-Calcium Pantothenate	1.00
Folic Acid	1.00
myo-Inositol	2.00
Nicotinamide	1.00
Pyridoxal HCl	1.00
Riboflavin	0.10
Thiamine HCl	1.00
Inorganic Salts:	
CaCl ₂ 2 H ₂ O	265.00
MgSO ₄ 7 H ₂ O	200.00
KCl	400.00
NaCl	6800.00
NaH ₂ PO ₄ 2 H ₂ O	158.64
Other Components:	
D-Glucose	1000.00
Phenol Red Sodium Salt	11.00

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.

Help Needed?

If you have any further questions regarding this product, please do not hesitate to contact our cell culture experts by email (techservice@capricorn-scientific.com) or phone (+49 6424 944640).