BioArtha Labs PVT LTD
Unit 2, Plot #R-11, 1st Cross, KSSIDC
Industrial Estate Bommasandra 2nd
Stage, Yarandahalli Jigani Rd
Bangalore, Karnataka -560099 (India)

info@bioarthalabs.com

DATA SHEET

Rev.ver: 01

1. Identification

Product name	**Minimum Essential Medium Eagle (MEM)** With Hanks' salts, L-Glutamine and NEAA Without Sodium Bicarbonate
Catalog.no	**CCMP077**

2. Description

Minimum Essential Medium (MEM), developed by Harry Eagle, is one of the most widely used of all synthetic cell culture media. Early attempts to cultivate normal mammalian fibroblasts and certain subtypes of HeLa cells revealed they had specific nutritional requirements that could not be met by Eagle's Basal Medium (BME). Subsequent studies using these and other cells in culture indicated additions to BME could be made to aid growth of a wider variety of fastidious cells.

MEM, which incorporates these modifications, includes higher concentrations of amino acids so the medium more closely approximates the protein composition of cultured mammalian cells. MEM has been used for cultivation of a wide variety of cells grown in monolayers. Optional supplementation of non-essential amino acids to the formulations that incorporate either Hanks' or Earle's salts has broadened the usefulness of this medium.

3. Product Specifications

Appearance	Off white powder
CO_2 concentration, optimum	5.0 %
Storage and shelf life	Store at +2°C to +8°C protected from light.
Shipping conditions	Ambient

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4. Formulation

Components	Concentration mg/L
Amino Acids:	
L-Alanine	8.9
L-Arginine HCl	126
L-Asparagine H_2O	15.0
L-Aspartic Acid	13.30
L-Cystine 2HCl	31.3
L-Glutamic Acid	14.70
L-Glutamine	292
Glycine	7.50
L-Histidine HCl H_2O	42.0
L-Isoleucine	52.0
L-Leucine	52.0
L-Lysine HCl	72.50
L-Methionine	15.0
L-Phenylalanine	32.0
L-Proline	11.50
L-Serine	10.50
L-Threonine	48.0
L-Tryptophan	10
L-Tyrosine 2Na $2H_2O$	51.9
L-Valine	46.0

Components	Concentration mg/L
Vitamins:	
Choline chloride	1.0
D-Pantothenic acid • ½Ca	1.0
Folic Acid	1.0
myo-Inositol	2.0
Nicotinamide	1.0
Pyridoxal HCl	1.0
Riboflavin	0.10
Thiamine HCl	1.0
Inorganic Salts	
$CaCl_2$ $2H_2O$	185
$MgSO_4$(anhydrous)	97.72
Na_2HPO_4(anhydrous)	47.80
KCl	400
NaCl	8000
KH_2PO_4	60
Other Components:	
D-Glucose	1000.0
Phenol red Sodium salt	11.0

Preparation of 1-liter liquid medium:

1. Suspend 10.8 g in 900 ml cell culture grade water with constant, gentle stirring until the powder is completely dissolved. Do not heat the water.

2. Add 0.35 g of sodium bicarbonate powder or 4.7 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. Add cell culture grade water up to the final volume of 1000 ml

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.

5. 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.