



Catalog Number: 1110022

# Minimum Essential Medium Eagle (Modified) with Earle's Salts (EMEM) (Autoclavable Powder) without L-glutamine, sodium bicarbonate

**Description:** MEM, originally prepared by Harry Eagle, is one of the most popular cell culture media. Upon his attempts to cultivate normal mammalian fibroblasts and certain HeLa cell subtypes, it was revealed that the nutritional needs of these cell types could not be met by BME. Further studies led to the development of MEM incorporating specific modifications such as higher amino acid concentrations for the cultivation of fastidious cells. MP's MEM may be used to support the growth of cells in monolayers, in suspension and wide variety of other cell types with proper supplementation. MP offers MEM with either Earle's or Hanks' salts. Storage Temperature 2-8°C.

The formulation differs from the original in that the concentrations of some of the vitamins have been increased slightly; and in some, the amino acids differ by decimal amounts. In some formulation, the MgSO<sub>4</sub> concentration differs from that of Eagle but agrees with that quoted by Parker (Parker quotes 200.00 mg/liter MgSO<sub>4</sub>·7H<sub>2</sub>O).

## Formulation:

<i>Components</i>	<i>mg/L</i>	<i>Mol. Wt.</i>	<i>Mol. (mM)</i>
<b>Amino Acids</b>			
L-Arginine HCl	126.40	174.2	0.73
L-Cystine 2HCl	31.10	313.2	0.10
L-Histidine HCl H <sub>2</sub> O	41.90	209.6	0.20
L-Isoleucine	52.50	131.2	0.40
L-Leucine	52.50	131.2	0.40
L-Lysine HCl	73.06	182.6	0.40
L-Methionine	14.90	149.2	0.10
L-Phenylalanine	33.02	165.2	0.20
L-Threonine	47.64	119.1	0.40
L-Tryptophan	10.20	204.2	0.05
L-Tyrosine	36.00	181.2	0.20
L-Valine	46.90	117.1	0.40

<b>Vitamins</b>			
Choline Bitartrate	1.80	253.3	0.0071
D-Calcium Pantothenate	1.00	238.3	0.0042
Folic Acid	1.00	441.4	0.0023
myo-Inositol	2.00	180.2	0.0111
Nicotinamide	1.00	122.13	0.0082
Pyridoxine HCl	1.00	205.6	0.0049
Riboflavin	0.10	376.4	0.0003
Thiamine HCl	1.00	337.3	0.0030
<b>Inorganic Salts</b>			
Calcium Chloride [CaCl <sub>2</sub> ]	200.00	111	1.80
Magnesium Sulfate [MgSO <sub>4</sub> ]	97.00	120.4	0.81
Potassium Chloride [KCl]	400.00	74.55	5.37
Sodium Chloride [NaCl]	6800.00	58.44	116.36
Sodium Phosphate Monobasic [NaH <sub>2</sub> PO <sub>4</sub> H <sub>2</sub> O] Monohydrate	140.00	159.96	0.88
<b>Other</b>			
Dextrose	1000.00	180.2	5.55
Phenol Red Sodium Salt	6.00	376.4	0.02
Succinic Acid	75.00	118.1	0.64
<b>Add</b>			
NaHCO <sub>3</sub> Powder (g/L)		2.20	
NaHCO <sub>3</sub> 7.5% Solution (mL/L)		29.40	
L-glutamine Powder (mg/L)		292.00	
L-glutamine 200 mM Solution (mL/L)		10.00	

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