



Catalog Number: 1210254

Minimum Essential Medium Eagle (Modified) (1X Solution) without L-glutamine

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 MgSO₄ concentration differs from that of Eagle but agrees with that quoted by Parker (Parker quotes 200.00 mg/liter MgSO₄·7H₂O).

The Auto-Pow (Autoclavable) EMEM powder medias differ from the normal formulation in that they do not contain L-glutamine, choline chloride or sodium bicarbonate. Sodium succinate, succinic acid and choline bitartrate are added to the Auto-Pow medias but not to the regular formulations.

Formulation:

Component	mg/lt	Mol. Wt.	Mol. (mM)
Amino Acids			
L-Arginine HCl	126.40000	174.2	0.73
L-Cystine	24.02000	240.3	0.10
L-Histidine HCl H ₂ O	41.90000	209.6	0.20
L-Isoleucine	52.50000	131.2	0.40
L-Leucine	52.50000	131.2	0.40
L-Lysine HCl	73.06000	182.6	0.40
L-Methionine	14.90000	149.2	0.10
L-Phenylalanine	33.02000	165.2	0.20
L-Threonine	47.64000	119.1	0.40
L-Tryptophan	10.20000	204.2	0.05
L-Tyrosine	36.22000	181.2	0.20

L-Valine	46.90000	117.1	0.40
Vitamins			
Choline Chloride	1.00000	139.6	0.0072
D-Calcium Pantothenate	1.00000	238.3	0.0042
Folic Acid	1.00000	441.4	0.0023
myo-Inositol	2.00000	180.2	0.0111
Nicotinamide	1.00000	122.13	0.0082
Pyridoxal HCl	1.00000	203.6	0.0049
Riboflavin	0.10000	376.4	0.0003
Thiamine HCl	1.00000	337.3	0.0030
Inorganic Salts			
Calcium Chloride [CaCl ₂ 2H ₂ O] Dihydrate	264.90000	147	1.80
Magnesium Sulfate [MgSO ₄]	97.70000	120.4	0.81
Potassium Chloride [KCl]	400.00000	74.55	5.37
Sodium Bicarbonate [NaHCO ₃]	2000.00000	84.01	23.81
Sodium Chloride [NaCl]	6800.00000	58.44	116.36
Sodium Phosphate Monobasic [NaH ₂ PO ₄ H ₂ O] Monohydrate	140.00000	159.96	0.88
Other			
Dextrose	1000.00000	180.2	5.55
Phenol Red Sodium Salt	17.00000	376.4	0.05
Add			
L-glutamine Powder (mg/L)		292.00	
L-glutamine 200 mM Solution (mL/L)		10.00	

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