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Technical Datasheet

# Minimum Essential Medium Eagle (MEM)

**With Hanks' salts, L-Glutamine, NEAA and Sodium bicarbonate**

**Product Code: AL048A**

## Product Description:

Minimum Essential Medium (MEM) is a modification of Basal Medium Eagle (BME). It was developed by Harry Eagle to meet the specific nutritional requirements of certain subtypes of HeLa cells and normal mammalian fibroblasts. MEM includes higher concentration of amino acids so as to closely approximate the protein composition of cultured mammalian cells. MEM can be used either with Earle's salts or Hanks' salts and can also be additionally supplemented with Non-essential Amino Acids (NEAA). This medium can be further modified by eliminating calcium to facilitate growth of cells in suspension cultures.

AL048A is Minimum Essential Medium with Hanks' balanced salts, L-glutamine, sodium bicarbonate and non-essential amino acids. Hanks' salt mixture is designed to equilibrate with air, hence does not require $CO_2$ air mixture. Cells can therefore be grown in AL048A in less $CO_2$ or $CO_2$ free environment. Users are advised to review the literature for recommendations regarding medium supplementation and physiological growth requirements specific for different cell lines.

## Composition:

| Ingredients | mg/L |
|---|---|
| **INORGANIC SALTS** | |
| Calcium chloride dihydrate | 185.000 |
| Disodium hydrogen phosphate anhydrous | 47.800 |
| Magnesium sulphate anhydrous | 97.720 |
| Potassium chloride | 400.000 |
| Potassium dihydrogen phosphate | 60.000 |
| Sodium bicarbonate | 350.000 |
| Sodium chloride | 8000.000 |
| **AMINO ACIDS** | |
| Glycine | 7.500 |
| L-Alanine | 8.900 |
| L-Arginine hydrochloride | 126.000 |
| L-Asparagine monohydrate | 15.000 |
| L-Aspartic Acid | 13.300 |
| L-Cystine dihydrochloride | 31.300 |
| L-Glutamic Acid | 14.700 |
| L-Glutamine | 292.000 |
| L-Histidine hydrochloride monohydrate | 42.000 |
| L-Isoleucine | 52.000 |
| L-Leucine | 52.000 |
| L-Lysine hydrochloride | 72.500 |
| L-Methionine | 15.000 |
| L-Phenylalanine | 32.000 |
| L-Proline | 11.500 |
| L-Serine | 10.500 |
| L-Threonine | 48.000 |
| L-Tryptophan | 10.000 |
| L-Tyrosine disodium salt dihydrate | 51.900 |
| L-Valine | 46.000 |
| **VITAMINS** | |
| Choline chloride | 1.000 |
| D-Ca-Pantothenate | 1.000 |
| Folic acid | 1.000 |
| Nicotinamide | 1.000 |
| Pyridoxal hydrochloride | 1.000 |
| Riboflavin | 0.100 |
| Thiamine hydrochloride | 1.000 |
| i-Inositol | 2.000 |
| **OTHERS** | |
| D-Glucose | 1000.000 |
| Phenol red sodium salt | 11.000 |

## Quality Control:

**Appearance**
Red coloured clear solution.

**pH**
7.00 -7.60

**Osmolality in mOsm/Kg $H_2O$**
335.00 -375.00

**Sterility**
No bacterial or fungal growth is observed after 14 days of incubation, as per USP specification.

**Cultural Response**
The growth promotion capacity of the medium is assessed qualitatively by analyzing the cells for the morphology and quantitatively by estimating the cell counts.

**Endotoxin Content**
NMT 1EU/ml

## Storage and Shelf Life:
Store at 2-8°C away from bright light.
Shelf life is 12 months.
Use before expiry date given on the product label.