

# Product Information

## Minimum Essential Medium

with Earle's Balanced Salts, without L-glutamine

CATALOG NO. 51412C

### Description

Minimum Essential Medium (MEM) with Earle's Balanced Salts was developed by Harry Eagle as a result of his studies to determine the essential nutritional requirements of mouse L cells and HeLa cells in culture. He demonstrated that these cells require 13 amino acids and seven vitamins to grow and reproduce *in vitro*. MEM is a modification of Eagle's earlier medium Basal Medium Eagle (BME), containing higher concentrations of the essential nutrients. This medium has demonstrated the ability to support a variety of normal and transformed cells in culture and contains Earle's Balanced Salts, which makes it suitable for use in atmospheres charged with CO<sub>2</sub> gas.

### Precautions

Use aseptic technique when handling or supplementing medium after filtration. This product is for research or for further manufacturing use. THIS PRODUCT IS NOT INTENDED FOR HUMAN OR THERAPEUTIC USE.

### Storage

Store medium protected from light at 2 to 8 C. Do not freeze. Do not use after the expiration date.

### Indications of Deterioration

Medium should be clear of particulates and flocculent material. Do not use if liquid medium is cloudy or contains precipitate. Other evidence of deterioration may include color change, pH shift or degradation of physical or performance characteristics.

### Preparation Instructions

This medium is formulated without L-glutamine. For applications requiring the use of L-glutamine, supplement with 2.0 mM L-glutamine by adding 10 mL/L of a 200 mM solution (Catalog No. 59202C) prior to use. Other supplements, such as antibiotics, can be added to the sterilized solution using aseptic technique. Storage conditions and shelf life of the supplemented product may be affected by the

nature of the supplements. Sterile serum should not be refiltered before or after being added to sterile medium because growth promoting capacity may be reduced upon refiltration.

### Formulation

Component (all components measured in mg/L)	
<b>INORGANIC SALTS</b>	
Calcium chloride anhydrous	200.000
Magnesium sulfate anhydrous	97.670
Potassium chloride	400.000
Sodium bicarbonate	2200.000
Sodium chloride	6800.000
Sodium phosphate monobasic monohydrate	140.000
<b>VITAMINS</b>	
D-calcium pantothenate	1.000
Choline chloride	1.000
Folic acid	1.000
i-inositol	2.000
Niacinamide	1.000
Pyridoxal HCl	1.000
Riboflavin	0.100
Thiamine HCl	1.000
<b>AMINO ACIDS</b>	
L-arginine HCl	126.980
L-cystine 2HCl	31.280
L-histidine HCl monohydrate	41.880
L-isoleucine	52.000
L-leucine	52.000
L-lysine HCl	72.470
L-methionine	15.000
L-phenylalanine	32.000
L-threonine	48.000
L-tryptophan	10.000
L-tyrosine 2Na dihydrate	51.900
L-valine	46.000
<b>OTHER</b>	
Dextrose anhydrous	1000.000
Phenol red sodium salt	10.620

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## Characteristics

### Appearance

Clear red solution

### Endotoxin

≤ 1.0 EU/mL

### Osmolality (as supplied)

270 - 310 mOsm/kg H<sub>2</sub>O

### pH (as supplied)

7.0 - 7.4

### Sterility

No microbial growth detected

## References

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