

DATA SHEET

Rev.ver: 01

1. Identification

Product Name: Nutrient Mixture F-12 Ham

w/o L-Glutamine & Sodium bicarbonate

Catalog.no: CCMP094

2. Description

Ham's Nutrient Mixtures were originally developed to support clonal growth of several clones of Chinese Hamster Ovary (CHO) cells, as well as clones of HeLa and mouse L-cells. Ham's F-12 has been used for the growth of primary rat hepatocytes and rat prostate epithelial cells. A clonal toxicity assay using CHO cells has also been reported with Ham's F12 as the medium of choice.

3. Storage/Stability

Appearance	White to off white powder.
CO ₂ concentration, optimum	5.0 %
Storage and shelf life	Store at +2°C to +8°C protected from light. Shelf life of 3 years.
Shipping conditions	Ambient

4. Formulation

Components	Concentration (mg/L)
Amino Acids	
Glycine	7.5
L-Alanine	8.9
L-Arginine hydrochloride	211
L-Asparagine-H ₂ O	15.01
L-Aspartic acid	13.3
L-Cysteine hydrochloride-H ₂ O	35.12
L-Glutamic Acid	14.7
L-Histidine hydrochloride-H ₂ O	21
L-Isoleucine	4
L-Leucine	13.1
L-Lysine hydrochloride	36.5
L-Methionine	4.5
L-Phenylalanine	5
L-Proline	34.5
L-Serine	10.5
L-Threonine	11.9
L-Tryptophan	2.04
L-Tyrosine disodium salt dihydrate	7.81
L-Valine	11.7

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Components	Concentration (mg/L)
Vitamins	
Biotin	0.0073
Choline chloride	14
D-Calcium pantothenate	0.5
Folic Acid	1.3
Niacinamide	0.036
Pyridoxine hydrochloride	0.06
Riboflavin	0.037
Thiamine hydrochloride	0.3
Vitamin B12	1.4
i-Inositol	18
Inorganic Salts	
Calcium Chloride (CaCl ₂) (anhyd.)	33.22
Cupric sulfate (CuSO ₄ ·5H ₂ O)	0.0025
Ferric sulfate (FeSO ₄ ·7H ₂ O)	0.834
Magnesium Chloride (anhydrous)	57.22
Potassium Chloride (KCl)	223.6
Sodium Chloride (NaCl)	7599
Sodium Phosphate dibasic (Na ₂ HPO ₄) anhydrous	142
Zinc sulfate (ZnSO ₄ ·7H ₂ O)	0.863
Other Components	
Hypoxanthine Na	4.77
Linoleic Acid	0.084
Lipoic Acid	0.21
Putrescine 2HCl	0.161
Thymidine	0.7
Sodium Pyruvate	110
D-Glucose (Dextrose)	1802
Phenol Red sodium salt	1.2

5. Procedure

Preparation of 1-liter liquid medium:

1. Suspend 10.6 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 1.176 g of sodium bicarbonate powder or 15.68ml of 7.5% sodium bicarbonate solution for 1 liter of medium and 0.146 gms of L-glutamine or 5.0ml of 200mM L-Glutamine solution 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.