

DATA SHEET

Rev.ver: 01

1. Identification

Product Name: Nutrient Mixture F-12 Ham, Kaighn's Modification

with L-Glutamine w/o Sodium bicarbonate

Catalog.no: CCMP098

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	15.01
L-Alanine	17.8
L-Arginine hydrochloride	421.4
L-Asparagine-H ₂ O	30.02
L-Aspartic acid	26.62
L-Cysteine hydrochloride-H ₂ O	70.24
L-Glutamic Acid	29.42
L-Glutamine	292.2
L-Histidine hydrochloride-H ₂ O	42
L-Isoleucine	7.872
L-Leucine	26.24
L-Lysine hydrochloride	73
L-Methionine	9
L-Phenylalanine	10
L-Proline	69.06
L-Serine	21
L-Threonine	23.82
L-Tryptophan	4.08
L-Tyrosine disodium salt dihydrate	13.5

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Components	Concentration (mg/L)
L-Valine	23.42
Vitamins	
Biotin	0.073
Choline chloride	14
D-Calcium pantothenate	0.477
Folic Acid	1.32
Niacinamide	0.037
Pyridoxine hydrochloride	0.061
Riboflavin	0.037
Thiamine hydrochloride	0.337
Vitamin B12	1.4
i-Inositol	18
Inorganic Salts	
Calcium Chloride ($\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$)	135.24
Cupric sulfate ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$)	0.0025
Ferric sulfate ($\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$)	0.834
Disodium hydrogen phosphate	115.020
Magnesium Chloride (anhydrous)	49.7
Magnesium sulphate anhydrous	93.700
Potassium Chloride (KCl)	283.290
Sodium Chloride (NaCl)	7597.2
Potassium dihydrogen phosphate	58.500
Zinc sulfate ($\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$)	0.1437
Other Components	
Hypoxanthine Na	4.083
Lipoic Acid	0.21
Putrescine 2HCl	0.322
Thymidine	0.726
Sodium Pyruvate	220
D-Glucose (Dextrose)	1260
Phenol Red sodium salt	3.318
Linoleic acid	0.084

5. Procedure

Preparation of 1-liter liquid medium:

1. Suspend 10.6gms in 900 ml cell culture grade water with constant, gentle stirring until the powder is completely dissolved. Do not heat the water.
2. Add 1.176gms of sodium bicarbonate powder or 15.68ml of 7.5% sodium bicarbonate solution for 1 liter of medium 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.