




Comparative Formulation

Ham's F-10 Nutrient Mixtures

 Powdered Media	HFP02	HFP03
Amino Acids	mg/L	mg/L
Glycine	7.5000	7.5000
L-Alanine	9.0000	9.0000
L-Arginine	211.0000	211.0000
L-Asparagine, Monohydrate	15.0000	15.0000
L-Aspartic Acid	13.0000	13.0000
L-Cysteine, Hydrochloride, Monohydrate	36.2500	36.2500
L-Glutamic Acid	14.7000	14.7000
L-Glutamine		146.0000
L-Histidine, Hydrochloride, Monohydrate	23.0000	23.0000
L-Isoleucine	2.6000	2.6000
L-Leucine	13.0000	13.0000
L-Lysine, Hydrochloride	29.0000	29.0000
L-Methionine	4.5000	4.5000
L-Phenylalanine	5.0000	5.0000
L-Proline	11.5000	11.5000
L-Serine	10.5000	10.5000
L-Threonine	3.6000	3.6000
L-Tryptophan	0.6000	0.6000
L-Tyrosine, Disodium, Dihydrate	2.6200	2.6200
L-Valine	3.5000	3.5000

 Powdered Media	HFP02	HFP03
Inorganic Salts	mg/L	mg/L
Calcium Chloride, Anhydrous	33.3000	33.3000
Cupric Sulfate, Pentahydrate	0.0020	0.0020
Ferrous Sulfate, Heptahydrate	0.8300	0.8300
Magnesium Sulfate, Anhydrous	74.6000	74.6000
Potassium Chloride	285.0000	285.0000
Potassium Phosphate, Monobasic, Anhydrous	83.0000	83.0000
Sodium Chloride	7400.0000	7400.0000
Sodium Phosphate Dibasic, Anhydrous	153.7000	153.7000
Zinc Sulfate, Heptahydrate	0.0300	0.0300
Other Components	mg/L	mg/L
D-Glucose, Anhydrous	1100.0000	1100.0000
Hypoxanthine, Sodium	4.7000	4.7000
Lipoic Acid (DL-Thiolic Acid)	0.2000	0.2000
Phenol Red, Sodium Salt	1.2000	1.2000
Pyruvic Acid, Sodium Salt	110.0000	110.0000
Thymidine	0.7000	0.7000
Vitamins	mg/L	mg/L
Biotin	0.0240	0.0240
Choline Chloride	0.7000	0.7000
D-Calcium Pantothenate	0.7000	0.7000
Folic Acid	1.3000	1.3000
Myo-Inositol	0.5000	0.5000
Niacinamide	0.6000	0.6000
Pyridoxine, Hydrochloride	0.2000	0.2000
Riboflavin	0.4000	0.4000
Thiamine, Hydrochloride	1.0000	1.0000
Vitamin B12	1.4000	1.4000



Liquid Media

HFL01

HFL09

Amino Acids

mg/L

mg/L

Glycine	7.5000	7.5000
L-Alanine	9.0000	9.0000
L-Arginine	211.0000	211.0000
L-Asparagine, Monohydrate	15.0000	15.0000
L-Aspartic Acid	13.0000	13.0000
L-Cysteine, Hydrochloride, Monohydrate	36.2500	36.2500
L-Glutamic Acid	14.7000	14.7000
L-Glutamine	146.0000	
L-Histidine, Hydrochloride, Monohydrate	23.0000	23.0000
L-Isoleucine	2.6000	2.6000
L-Leucine	13.0000	13.0000
L-Lysine, Hydrochloride	29.0000	29.0000
L-Methionine	4.5000	4.5000
L-Phenylalanine	5.0000	5.0000
L-Proline	11.5000	11.5000
L-Serine	10.5000	10.5000
L-Threonine	3.6000	3.6000
L-Tryptophan	0.6000	0.6000
L-Tyrosine, Disodium, Dihydrate	2.6200	2.6200
L-Valine	3.5000	3.5000



Liquid Media

HFL01

HFL09

Inorganic Salts

mg/L

mg/L

Calcium Chloride, Anhydrous	33.3000	33.3000
Cupric Sulfate, Pentahydrate	0.0020	0.0020
Ferrous Sulfate, Heptahydrate	0.8300	0.8300
Magnesium Sulfate, Anhydrous	74.6000	74.6000
Potassium Chloride	285.0000	285.0000
Potassium Phosphate, Monobasic, Anhydrous	83.0000	83.0000
Sodium Bicarbonate	1200.0000	1200.0000
Sodium Chloride	7400.0000	7400.0000
Sodium Phosphate Dibasic, Anhydrous	153.7000	153.7000
Zinc Sulfate, Heptahydrate	0.0300	0.0300

Other Components

mg/L

mg/L

D-Glucose, Anhydrous	1100.0000	1100.0000
Hypoxanthine, Sodium	4.7000	4.7000
Lipoic Acid (DL-Thiolic Acid)	0.2000	0.2000
Phenol Red, Sodium Salt	1.2000	1.2000
Pyruvic Acid, Sodium Salt	110.0000	110.0000
Thymidine	0.7000	0.7000



Liquid Media

HFL01

HFL09

Vitamins

mg/L

mg/L

Biotin	0.0240	0.0240
Choline Chloride	0.7000	0.7000
D-Calcium Pantothenate	0.7000	0.7000
Folic Acid	1.3000	1.3000
Myo-Inositol	0.5000	0.5000
Niacinamide	0.6000	0.6000
Pyridoxine, Hydrochloride	0.2000	0.2000
Riboflavin	0.4000	0.4000
Thiamine, Hydrochloride	1.0000	1.0000
Vitamin B12	1.4000	1.4000