Medium 199 Formulation

Catalog no.	216-011 Powder M199
Inorganic Salts	mg/L
$CaCl_2$ (anhydrous)	140.00
$Fe(NO_3)_3 \cdot 9H_2O$	0.72
KCl	400.00
KH_2PO_4	60.00
$MgSO_4$ (anhydrous)	97.70
NaCl	8000.00
$NaH_2PO_4 \cdot H_2O$	----
Na_2HPO_4 (anhydrous)	47.50
$NaHCO_3$	----
Amino Acids	
L-Alanine	25.00
L-Arginine·HCl	70.00
L-Aspartic acid	30.00
L-Cysteine·HCl·H_2O	0.11
L-Cystine·2HCl	26.00
L-Glutamic acid	75.00
L-Glutamine	100.00
Glycine	50.00
L-Histidine·HCl·H_2O	21.88
Hydroxy-L-proline	10.00
L-Isoleucine	20.00
L-Leucine	60.00
L-Lysine·HCl	70.00
L-Methionine	15.00
L-Phenylalanine	25.00
L-Proline	40.00
L-Serine	25.00
L-Threonine	30.00
L-Tryptophan	10.00
L-Tyrosine·2Na·$2H_2O$	57.87
L-Valine	25.00

Medium 199 Formulation, contd.

Catalog no.	216-011 Powder M199
Vitamins	mg/L
DL-alpha-Tocopherol·PO_4·Na	0.01
Ascorbic acid	0.05
Biotin	0.01
Calciferol	0.10
D-Calcium pantothenate	0.01
Choline chloride	0.50
Folic acid	0.01
i-Inositol	0.05
Menadione·$NaHSO_3$·$3H_2O$	0.019
Nicotinic acid	0.025
Nicotinamide	0.025
Para-Aminobenzoic acid	0.05
Pyridoxine·HCl	0.05
Riboflavin	0.01
Thiamine·HCl	0.01
Vitamin A acetate	0.14
Other	
Adenine sulfate	10.00
5-Adenylic acid·H_2O	0.20
ATP, 2Na·$3H_2O$	1.00
Cholesterol	0.20
2-Deoxy-D-ribose	0.50
D-Glucose	1000.00
Glutathione (reduced)	0.05
Guanine·HCl	0.30
Hypoxanthine, Na	0.354
Phenol red, Na	10.00
D-Ribose	0.50
Sodium acetate	50.00
Thymine	0.30
Tween 80	20.00
Uracil	0.30
Xanthine, Na	0.34
Specifications	
pH (after buffer)	6.9 ± 0.2
Osmolality (mOsm/kg)	275-315
Grams of powder required to prepare 1L (1X Solution)	10.63