

Medium 199 w/ Earle's  
BSS, L-Glutamine, HEPES  
& Sodium Bicarbonate

12-117



Description	CAS #	Chemical Formula	Concentration		Molarity	
			g/L	mg/L	mM	uM
Calcium Chloride Dihydrate	10035-04-8	CaCl <sub>2</sub> • 2H <sub>2</sub> O	0.265	265.000	1.802	1.802E+03
Dextrose	50-99-7	C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>	1.000	1.000E+03	5.551	5.551E+03
Ferric Nitrate Nonahydrate	7782-61-8	Fe(NO <sub>3</sub> ) <sub>3</sub> • 9H <sub>2</sub> O	7.200E-04	0.720	1.782E-03	1.782
Magnesium Sulfate Anhydrous	7487-88-9	MgSO <sub>4</sub>	0.098	97.688	0.812	811.561
Potassium Chloride	7447-40-7	KCl	0.400	400.000	5.366	5.366E+03
Sodium Bicarbonate	144-55-8	NaHCO <sub>3</sub>	2.200	2.200E+03	26.187	2.619E+04
Sodium Chloride	7647-14-5	NaCl	5.800	5.800E+03	99.247	9.925E+04
Sodium phosphate monobasic monohydrate	10049-21-5	NaH <sub>2</sub> PO <sub>4</sub> • H <sub>2</sub> O	0.140	140.000	1.015	1.015E+03
L-Alanine	56-41-7	HO <sub>2</sub> CCH(NH <sub>2</sub> )CH <sub>3</sub>	0.025	25.000	0.281	280.615
L-Arginine Monohydrochloride	1119-34-2	C <sub>6</sub> H <sub>14</sub> N <sub>4</sub> O <sub>2</sub> • HCl	0.070	70.000	0.332	332.289
L-Aspartic Acid	56-84-8	HO <sub>2</sub> CCH(NH <sub>2</sub> )CH <sub>2</sub> CO <sub>2</sub> H	0.030	30.000	0.225	225.394
L-Cysteine Monohydrochloride Monohydrate	7048-04-6	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> S • HCl • H <sub>2</sub> O	1.000E-04	0.100	0.001	0.569
L-Glutamic Acid	56-86-0	C <sub>5</sub> H <sub>9</sub> NO <sub>4</sub>	0.067	67.000	0.455	455.472
L-Glutamine	56-85-9	C <sub>5</sub> H <sub>10</sub> N <sub>2</sub> O <sub>3</sub>	0.100	100.000	0.684	684.229
Glutathione Reduced	70-18-8	C <sub>10</sub> H <sub>17</sub> N <sub>3</sub> O <sub>6</sub> S	5.000E-05	0.050	0.000	0.163
Glycine	56-40-6	HO <sub>2</sub> CCH <sub>2</sub> NH <sub>2</sub>	0.050	50.000	0.666	666.045
L-Histidine Monohydrochloride Monohydrate	5934-29-2	C <sub>6</sub> H <sub>9</sub> N <sub>3</sub> O <sub>2</sub> • HCl • H <sub>2</sub> O	0.022	22.000	0.105	104.962
L-Hydroxyproline	51-35-4	C <sub>5</sub> H <sub>9</sub> NO <sub>3</sub>	0.010	10.000	0.076	76.260
L-Isoleucine	73-32-5	HO <sub>2</sub> CCH(NH <sub>2</sub> )CH(CH <sub>3</sub> )CH <sub>2</sub> CH <sub>3</sub>	0.020	20.000	0.152	152.474
L-Leucine	61-90-5	HO <sub>2</sub> CCH(NH <sub>2</sub> )CH <sub>2</sub> CH(CH <sub>3</sub> ) <sub>2</sub>	0.060	60.000	0.457	457.422
L-Lysine Monohydrochloride	657-27-2	C <sub>6</sub> H <sub>14</sub> N <sub>2</sub> O <sub>2</sub> • HCl	0.070	70.000	0.383	383.247
L-Methionine	63-68-3	HO <sub>2</sub> CCH(NH <sub>2</sub> )CH <sub>2</sub> CH <sub>2</sub> SCH <sub>3</sub>	0.015	15.000	0.101	100.536
L-Phenylalanine	63-91-2	HO <sub>2</sub> CCH(NH <sub>2</sub> )CH <sub>2</sub> C <sub>6</sub> H <sub>5</sub>	0.025	25.000	0.151	151.341
L-Proline	147-85-3	C <sub>5</sub> H <sub>9</sub> NO <sub>2</sub>	0.040	40.000	0.347	347.433
L-Serine	56-45-1	HO <sub>2</sub> CCH(NH <sub>2</sub> )CH <sub>2</sub> OH	0.025	25.000	0.238	237.891
L-Threonine	72-19-5	HO <sub>2</sub> CCH(NH <sub>2</sub> )CH(OH)CH <sub>3</sub>	0.030	30.000	0.252	251.847
L-Tryptophan	73-22-3	C <sub>11</sub> H <sub>12</sub> N <sub>2</sub> O <sub>2</sub>	0.010	10.000	0.049	48.964
L-Valine	72-18-4	HO <sub>2</sub> CCH(NH <sub>2</sub> )CH(CH <sub>3</sub> ) <sub>2</sub>	0.025	25.000	0.213	213.493
L-Ascorbic Acid (Vitamin C)	50-81-7	C <sub>6</sub> H <sub>8</sub> O <sub>6</sub>	5.000E-05	0.050	2.839E-04	0.284
D-Biotin (Vitamin H)	58-85-5	C <sub>10</sub> H <sub>16</sub> N <sub>2</sub> O <sub>3</sub> S	1.000E-05	0.010	4.093E-05	0.041
Calciferol (Vitamin D2)	50-14-6	C <sub>28</sub> H <sub>44</sub> O	1.000E-04	0.100	2.521E-04	0.252
D-Calcium Pantothenate (Vitamin B5)	137-08-6	C <sub>18</sub> H <sub>32</sub> CaN <sub>2</sub> O <sub>10</sub>	1.000E-05	0.010	2.099E-05	0.021
Choline Chloride	67-48-1	HOCH <sub>2</sub> CH <sub>2</sub> N(CH <sub>3</sub> ) <sub>3</sub> Cl	5.000E-04	0.500	3.581E-03	3.581
Folic Acid	59-30-3	C <sub>19</sub> H <sub>19</sub> N <sub>7</sub> O <sub>6</sub>	1.000E-05	0.010	2.266E-05	0.023
Inositol	87-89-8	C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>	5.000E-05	0.050	2.775E-04	0.277
Menadione	58-27-5	C <sub>11</sub> H <sub>8</sub> O <sub>2</sub>	1.000E-05	0.01	5.808E-05	0.058
Nicotinic Acid	59-67-6	C <sub>6</sub> H <sub>5</sub> NO <sub>2</sub>	2.500E-05	0.025	0.000203	0.203
Niacinamide (Nicotinamide)	98-92-0	C <sub>6</sub> H <sub>6</sub> N <sub>2</sub> O	2.500E-05	0.025	2.047E-04	0.205
Pyridoxal hydrochloride	65-22-5	C <sub>8</sub> H <sub>9</sub> NO <sub>3</sub> • HCl	2.500E-05	0.025	1.23E-04	0.123
Pyridoxine Monohydrochloride	58-56-0	C <sub>8</sub> H <sub>11</sub> NO <sub>3</sub>	2.500E-05	0.025	1.22E-04	0.122
Riboflavin (Vitamin B2)	83-88-5	C <sub>17</sub> H <sub>20</sub> N <sub>4</sub> O <sub>6</sub>	1.000E-05	0.010	2.66E-05	0.027
Thiamine Monohydrochloride (Vitamin B1)	67-03-8	C <sub>12</sub> H <sub>18</sub> N <sub>4</sub> O <sub>4</sub> S	1.000E-05	0.010	2.96E-05	0.030
DL-α-Tocopherol Phosphate Disodium Salt	60934-46-5	C <sub>29</sub> H <sub>49</sub> O <sub>5</sub> PNa <sub>2</sub>	1.000E-05	0.010	1.803E-05	0.018
Retinyl acetate (Vitamin A acetate)	127-47-9	C <sub>22</sub> H <sub>32</sub> O <sub>2</sub>	1.400E-04	0.140	4.262E-04	0.426
Adenine Sulfate	321-30-2	(C <sub>5</sub> H <sub>5</sub> N <sub>5</sub> ) <sub>2</sub> H <sub>2</sub> SO <sub>4</sub> •2H <sub>2</sub> O	0.010	10.000	0.025	24.730
Adenosine Monophosphate	18422-05-4	C <sub>10</sub> H <sub>14</sub> N <sub>5</sub> O <sub>7</sub> P•nH <sub>2</sub> O	2.000E-04	0.200	0.001	0.576
Adenosine Triphosphate Disodium Salt	51963-61-2	C <sub>10</sub> H <sub>14</sub> N <sub>5</sub> O <sub>13</sub> P <sub>3</sub> Na <sub>2</sub> •3H <sub>2</sub> O	1.000E-03	1.000	0.002	1.652
Guanine HCl	635-39-2	C <sub>5</sub> H <sub>5</sub> N <sub>5</sub> O•HCl	3.000E-04	0.300	1.599E-03	1.599
Thymine	65-71-4	C <sub>5</sub> H <sub>6</sub> N <sub>2</sub> O <sub>2</sub>	3.000E-04	0.300	2.379E-03	2.379
Uracil	66-22-8	C <sub>4</sub> H <sub>4</sub> N <sub>2</sub> O <sub>2</sub>	3.000E-04	0.300	2.676E-03	2.676
HEPES Buffer	7365-45-9	C <sub>8</sub> H <sub>18</sub> N <sub>2</sub> O <sub>4</sub> S	5.957	5.957E+03	24.999	2.500E+04

Phenol Red	34487-61-1	C19H14O5S	0.015	15.000	3.985E-02	39.851
P-Aminobenzoic Acid	150-13-0	C7H7NO2	5.000E-05	0.050	3.647E-04	0.365
Deoxyribose	533-67-5	C5H10O4 (CHO-CH2-HCOH-HCOH-CH2-OH)	5.000E-04	0.500	3.729E-03	3.729
Ribose	50-69-1	C5H10O5	5.000E-04	0.500	3.331E-03	3.331
L-Tyrosine Disodium Salt, Dihydrate	122666-78-9	C9H9NO3Na2 • 2H2O	0.058	57.661	0.221	220.763
L-Cystine Dihydrochloride	30925-07-6	C6H12N2O4S2•2HCl	0.026	26.067	8.323E-02	83.229
Hypoxanthine Disodium Salt	68-94-0	C5H2N4ONa2	3.970E-04	0.397	2.204E-03	2.204
Xanthine·Na·H2O	1196-43-6	C5H3N4NaO2·H2O	3.789E-04	0.379	1.972E-03	1.972
Sodium Acetate	127-09-3	C2H3NaO2	0.050	50.026	0.610	609.846
Tween 80	9005-65-6	N/A (Complex mixture of fatty acid esters)	4.900E-03	4.900	N/A	
Cholesterol	57-88-5	C27H46O	2.000E-04	0.200	5.173E-04	0.517