
	Document ID:	TDS-MCP-056-50L	Version:	001
	Date of Issue:	10-JAN-2023	Approved by:	Dr. Iman Kamranfar
	Review Date:	10-JAN-2025	Signature:	
	Title:	<b>TECHNICAL DATASHEET</b>		

### Minimum Essential Medium (MEM)



<b>Filtration/ Treatment</b>	With Earle's Salts and without L-Glutamine, Homogenous Powder
<b>Product Code</b>	MCP-056-50L
<b>Shelf Life</b>	4 Years from DOM
<b>Storage Temperature</b>	+2 to +8°C
<b>Shipping Temperature</b>	ambient

### QC Specifications

Physical and Chemical Analysis	Method	Specifications	Units
Appearance	Visual	Off-white to pink/orange powder	n/a
Solubility	Internally validated	9.31 g/L in ≤ 30 minutes	n/a
Moisture Content	Loss-on drying	≤ 2.0 %	n/a
Particle Size (100 mesh)	Internally validated	≥ 90%	n/a
pH without NaHCO <sub>3</sub>	Electronic pH Meter	5.5 - 6.7	n/a
pH with NaHCO <sub>3</sub>	Electronic pH Meter	6.8 - 7.8	n/a
Osmolality without NaHCO <sub>3</sub>	Osmometer	240 - 290	mOsm/kg
Osmolality with NaHCO <sub>3</sub>	Osmometer	290 - 350	mOsm/kg
Endotoxin	LAL Kinetic	≤ 1.0	EU/ml
Mycoplasma	qPCR	Not detected	n/a
<b>Cell culture</b>			
Cell growth promotion	Passage test	3 passages	n/a
Viability	Trypan Blue Exclusion	≥75%	n/a

### Formulation

Amino Acids	CAS number	Concentration (mg/L)
L-Arginine, Hydrochloride	1119-34-2	126.40
L-Cystine, Dihydrochloride	30925-07-6	31.20
L-Glutamic Acid	56-86-0	75.00
L-Histidine, Hydrochloride, Monohydrate	5934-29-2	41.90
L-Isoleucine	73-32-5	52.50
L-Leucine	61-90-5	52.50
L-Lysine, Hydrochloride	657-27-2	73.00
L-Methionine	63-68-3	15.00
L-Phenylalanine	63-91-2	32.50
L-Threonine	72-19-5	47.60
L-Tryptophan	73-22-3	10.00
L-Tyrosine, Disodium, Dihydrate	122666-87-9	51.90
L-Valine	72-18-4	46.80
<b>Vitamins</b>		
Choline Chloride	67-48-1	1.00
D-Calcium Pantothenate	137-08-6	1.00
Folic Acid	59-30-3	1.00
Myo-Inositol	87-89-8	2.00
Niacinamide	98-92-0	1.00
Pyridoxal, Hydrochloride	65-22-5	1.00
Riboflavin	83-88-5	0.10
Thiamine, Hydrochloride	67-03-8	1.00
<b>Other Components</b>		
D-Glucose, Anhydrous	50-99-7	1000.00
Phenol Red, Sodium Salt	34487-61-1	10.00

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Inorganic Salts		
Calcium Chloride, Anhydrous	10043-52-4	200.00
Magnesium Sulfate, Anhydrous	7487-88-9	97.70
Potassium Chloride	7447-40-7	400.00
Sodium Chloride	7647-14-5	6800.00
Sodium Phosphate, Monobasic, Monohydrate	10049-21-5	140.00

*Note: Gram of powder required for 1 L medium: 9.312.  
Sodium Bicarbonate is not included in the powdered media (2200.00 mg/L).*

**Product Use:** This product is intended for laboratory use only.