
	Document ID:	TDS-MCL-071-500ML	Version:	003
	Date of Issue:	10-JAN-2023	Approved by:	Dr. Iman Kamranfar
	Review Date:	10-JAN-2025	Signature:	
	Title:	<b>TECHNICAL DATASHEET</b>		

### Williams Medium E



Filtration/ Treatment	Without L-Glutamine, Sterile Filtered
Product Code	MCL-071-500ML
Shelf Life	24 months from DOM
Storage Temperature	+2 to +8°C
Shipping Temperature	ambient

### QC Specifications

Physical and Chemical Analysis	Method	Specifications	Units
Appearance	Visual	Clear, red solution	n/a
pH at RT	Electronic pH Meter	6.8 - 7.8	n/a
Osmolality	Osmometer	280 - 340	mOsm/kg
Endotoxin	LAL Kinetic	≤ 1.0	EU/ml
<b>Sterility</b>			
Aerobic Bacteria	Internally Validated	Not detected	n/a
Anaerobic Bacteria	Internally Validated	Not detected	n/a
Fungi (Yeast & Mold)	Internally Validated	Not detected	n/a
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-Alanine	56-41-7	90.00
L-Arginine, Hydrochloride	1119-34-2	60.50
L-Asparagine monohydrate	5794-13-8	20.00
L-Aspartic Acid	56-84-8	30.00
L-Cysteine hydrochloride monohydrate	7048-04-6	58.00
L-Cystine, Dihydrochloride	30925-07-6	26.09
L-Glutamic Acid	56-86-0	50.00
L-Histidine, Hydrochloride, Monohydrate	5934-29-2	20.30
L-Isoleucine	73-32-5	50.00
L-Leucine	61-90-5	75.00
L-Lysine, Hydrochloride	657-27-2	87.50
L-Methionine	63-68-3	15.00
L-Phenylalanine	63-91-2	25.00
L-Proline	147-85-3	30.00
L-Serine	56-45-1	10.00
L-Threonine	72-19-5	40.00
L-Tryptophan	73-22-3	10.00
L-Tyrosine	60-18-4	35.00
L-Valine	72-18-4	50.00
<b>Vitamins</b>		
Biotin	58-85-5	0.50
Calciferol	50-14-6	1.00
Choline Chloride	67-48-1	1.50
D-Calcium Pantothenate	137-08-6	1.00
DL- $\alpha$ -Tocopherol PO <sub>4</sub> Na <sub>2</sub>	60934-46-5	0.01
Folic Acid	59-30-3	1.00
L-Ascorbic Acid	50-81-7	2.00
Menadione Sodium Bisulfite 3H <sub>2</sub> O	6147-37-1	0.01
Myo-Inositol	87-89-8	2.00
Niacinamide	98-92-0	1.00

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Pyridoxal, Hydrochloride	65-22-5	1.00
Riboflavin	83-88-5	0.10
Thiamine, Hydrochloride	67-03-8	1.00
Vitamin A Acetate	127-47-9	0.10
Vitamin B12	68-19-9	0.20
<b>Other Components</b>		
D-(+)-Glucose, anhydrous	50-99-7	2000.00
Reduced Glutathione	70-18-8	0.05
Methyl Linoleate	112-63-0	0.03
Sodium Pyruvate	113-24-6	25.00
Phenol Red, Sodium Salt	34487-61-1	8.10
<b>Inorganic Salts</b>		
Calcium Chloride, Dihydrate	10035-04-8	264.90
Cupric Sulfate	7758-98-7	0.00006
Ferric Nitrate Nonahydrate [Fe(NO <sub>3</sub> ) <sub>3</sub> ·9H <sub>2</sub> O]	7782-61-8	0.0001
Magnesium Sulfate, Anhydrous	7487-88-9	97.70
Potassium Chloride	7447-40-7	400.00
Sodium Bicarbonate	144-55-8	2200.00
Sodium Chloride	7647-14-5	6800.00
Sodium Phosphate, Monobasic, Monohydrate	10049-21-5	140.00
Zinc Sulfate Heptahydrate	7446-20-0	0.0002

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