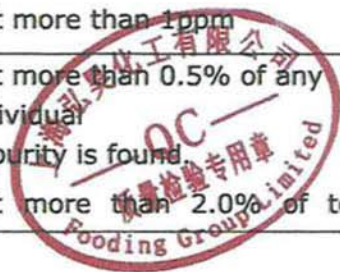


Certificate of Analysis

Product Name	L-Serine		
Batch No	C604-202102018	Standard	USP41
Production Date	2022/02/20	Expiration Date	2024/02/19
Quantity	100kg	Packing	25kg/drum

Item	Specifications	Result
Appearance	White crystals or crystalline powder	Conforms
Identification	Infrared Absorption	Conforms
Assay	98.5 to 101.5% (Calculated on the dried basis)	99.0%
Specific rotation [α] _{D25}	+14.0° to +15.6°	+14.5°
Loss on Drying	Not more than 0.2%	0.01%
Residue on ignition	Not more than 0.1%	0.05%
Chloride (Cl)	Not more than 0.02%	< 0.02%
Sulfate (SO ₄)	Not more than 0.03%	<0.03%
Iron(Fe)	Not more than 10ppm	<10ppm
Heavy metals(Pb)	Not more than 10ppm	<10ppm
Lead	Not more than 3ppm	<3ppm
Arsenic(as As ₂ O ₃)	Not more than 1ppm	<1ppm
Mercury	Not more than 0.1ppm	<0.1ppm
Cadmium	Not more than 1ppm	<1ppm
Chromatographic purity	Not more than 0.5% of any individual impurity is found. Not more than 2.0% of total	Conforms



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	impurities is found.	
Organic volatiltc impurities	Meet the Requirements	Conforms
Other Amino Acids	Chromatograohically not detectable	Conforms
Total plate count	Less than 1000 cfu/g	Conforms
Yeast & molds	Less than 100 cfu/g	Conforms
Coliforms:	Less than 10 cfu/g	Conforms
E Coli	Negative	Negative
Salmonella	Negative	Negative
Pseudomonas	Negative	Negative
S.Aureus	Negative	Negative
Conclusion	Through analysis, the quality of this batch number is approved.	



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