



GONMISOL
FINE INGREDIENTS

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Barcelona - Spain (EU)

Certificate of analysis

Certificado de análisis

**L-LYSINE HCL
EP USP AJI**

Batch	Manufactured	Expiration	Quantity
CP0121121301	13/12/2021	12/12/2024	5.000 Kg

EP5		
Characters	A white, crystalline powder or colorless crystals.	Qualified
Identification	As per EP5 (Chemical examine & Infrared Absorption)	Qualified
Appearance of solution	Clear and not more intensely coloured than reference solution.	Qualified
Specific rotation	+21.0° to +22.5°	+21.0°
Ninhydrin-positive substances	Examine by thin-layer chromatography	Qualified
Sulphates	Not more than 300 ppm	< 200 ppm
Ammonium	Not more than 200 ppm	< 200 ppm
Iron (Fe)	Not more than 30 ppm	< 10 ppm
Heavy metals (Pb)	Not more than 10 ppm	< 10 ppm
Loss on drying	Not more than 0.5%	0.19%
Sulphated ash	not more than 0.1%	0.06%
Assay	98.5% ~ 101.0%	99.5%
Special Specification (EU)		
Arsenic	Less than 2 ppm	< 1 ppm
Lead	Less than 3 ppm	< 1 ppm
Mercury	Less than 0.1 ppm	< 0.1 ppm
Cadmium	Less than 1 ppm	< 1 ppm
Microbiology		
Total plate count	≤10.000 cfu/g	Qualified



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Batch	Manufactured	Expiration	Quantity
CP0121121301	13/12/2021	12/12/2024	5.000 Kg
Yeast/moulds count	≤1.000 cfu/g		Qualified
Escherichia coli	1g/Absent		Qualified
Salmonella	25g/Absent		Qualified
Staphylococcus aureus	Absent		Qualified
USP29			
Identification	Infrared Absorption		Qualified
Appearance	Fresh materials, free flowing, odourless, white color and no black spec		Qualified
Specific rotation	+20.4° to +21.4°		+21.0°
Loss on drying	Not more than 0.4%		0.19%
Residue on ignition	Not more than 0.1%		0.06%
Sulfate	Nor more than 0.03%		< 0.02%
Iron	Not more than 0.003%		< 0.001%
Heavy metals	Not more than 0.0015%		< 0.001%
Chromatographic purity	As per USP29 (By TLC)		Qualified
Individual impurity	≤ 0.5%		< 0.5%
Total impurity	≤ 2.0%		< 2.0%
Organic volatile impurities	Meets the requirements		Qualified
Content of chloride	19.0% ~ 19.6%		19.28%
Residual solvents	Meets the requirements		Qualified
Assay	98.5 to 101.5%		99.5%



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EP USP AJI**

Batch	Manufactured	Expiration	Quantity
CP0121121301	13/12/2021	12/12/2024	5.000 Kg

Special Specification (EU)

Arsenic	Less than 2 ppm	< 1 ppm
Lead	Less than 3 ppm	< 1 ppm
Mercury	Less than 0.1 ppm	< 0.1 ppm
Cadmium	Less than 1 ppm	< 1 ppm
Microbiology		
Total plate count	≤10.000 cfu/g	Qualified
Yeast/moulds count	≤1.000 cfu/g	Qualified
Escherichia coli	1g/Absent	Qualified
Salmonella	25g/Absent	Qualified
Staphylococcus aureus	Absent	Qualified
AJI97		
Identification	Infrared Absorption	Qualified
Specific rotation [α] 20 D	+20.8° to +21.5°	+21.0°
State of solution (Transmittance)	Clear and colorless not less than 98.0%	99.2%
Chloride (Cl)	19.12 to 19.51%	19.28%
Ammonium (NH ₄)	Not more than 0.02%	< 0.02%
Sulfate (SO ₄)	Not more than 0.02%	< 0.02%
Iron (Fe)	Not more than 10 ppm	< 10 ppm
Heavy metals (Pb)	Not more than 10 ppm	< 10 ppm



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Batch	Manufactured	Expiration	Quantity
CP0121121301	13/12/2021	12/12/2024	5.000 Kg
Other amino acids		Conforms	Qualified
Loss on drying		Not more than 0.40%	0.19%
Residue on ignition		Not more than 0.10%	0.06%
Assay		98.5 to 101.0%	99.5%
pH		5.0 to 6.0	5.6
Special Specification (EU)			
Arsenic		Less than 2 ppm	< 1 ppm
Lead		Less than 3 ppm	< 1 ppm
Mercury		Less than 0.1 ppm	< 0.1 ppm
Cadmium		Less than 1 ppm	< 1 ppm
Microbiology			
Total plate count		≤10.000 cfu/g	Qualified
Yeast/moulds count		≤1.000 cfu/g	Qualified
Escherichia coli		1g/Absent	Qualified
Salmonella		25g/Absent	Qualified
Staphylococcus aureus		Absent	Qualified

Conclusion : Material conforms to the EP5 USP29 AJI97 Standard.