



We Bring Natural Ingredient From Nature

Shaanxi Guanjie Technology Co., Ltd(factory)

### CERTIFICATE OF ANALYSIS

Product Name:	L(+)- Choline Bitartrate	Country of Origin:	China
Batch No.:	CH20220816	Quantity:	1000Kg
Manufacture time:	2022.08.16	Report Date:	2022.08.20
Expiry Date:	2025.08.15	Standard:	FCC

Item	Specification	Results	Test Method
Appearance	White Hygroscopic Crystal	Conform	FCC
*Identification A&B	Passes FCC Test	Conform	FCC
Assay	NLT 98.0%	99.51%	FCC
Choline	NLT 40.3%	40.94%	Titration
Water	NMT 0.5%	0.10%	FCC
pH(10% solution):	3.0-4.0	3.42	USP<791>
Specific Rotation	+17.5° ~ +18.5°	+17.89°	FCC
Residue on Ignition	NMT 0.1%	0.03%	FCC
Heavy Metals	NMT 10 ppm	Conform	USP<231>
Lead	NMT 2ppm	Conform	USP<730>
*Arsenic	NMT 1ppm	Conform	USP<730>
Cadmium	NMT 0.2ppm	Conform	USP<730>
Mercury	NMT 0.1ppm	Conform	USP<730>
1,4-Dioxane	NMT 10 ppm	Conform	FCC
Total Plate Count	NMT 1000 CFU/g	Conform	USP<61>
Yeast and Mold	NMT 100 CFU/g	Conform	USP<61>
E.coli	Negative/10g	Conform	USP<62>
*Salmonella	Negative/25g	Conform	USP<62>
Staphylococcus	Negative/10g	Conform	USP<62>
Bulk Density	0.60-0.80g/ml	0.62g/ml	USP<616>
Tapped Density		0.73g/ml	
Particle Size	100%Thru20 mesh Through40 mesh Through60 mesh Through80 mesh Through100 mesh	100% 59.27% 8.18% 2.18% 2.18%	USP<786>

**Conclusion:** The test results correspond to FCC9  
**Packing:**25kg/Fiber Drum with two PE liners inside.  
**Storage:** Preserve in well-closed containers in a cool, dry and well ventilated area.

