



JINAN JIUAN ESTER CHEMICAL CO.,LTD.

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CERTIFICATE OF ANALYSIS

Product Name :	DL Choline Bitartrate	Country of Origin:	China
Batch No.:	20170503	Quantity:	800Kg
Manufacture time:	2017.05.15	Package:	25Kg/Drum
Expiry Date:	2019.05.14	Standard:	FCC

Item	Specification	Results	Test Method
Appearance	White crystalline powder	Conform	Visual
Assay(d.s.)	NLT 98.0%	98.52%	Titration
Loss on Drying	NMT 0.5%	0.15%	Drying(105°C,3h)
pH(10% solution):	3.0-4.0	3.65	pH meter
Residue on Ignition	NMT 0.1%	0.03%	Electric furnace(550°C)
Heavy Metals	NMT 10 ppm	Conform	Colorimetric method
Arsenic	NMT 2ppm	Conform	ICP
Lead	NMT 2ppm	Conform	ICP
Cadmium	NMT0.2ppm	Conform	ICP
Mercury	NMT 0.1ppm	Conform	ICP
1,4 Dioxane	NMT 10 ppm	Conform	USP
Total Plate Count	NMT 1000cfu/g	Conform	Viable plate count
Yeast and Mold	NMT 100cfu/g	Conform	Viable plate count
E.coli	Negative	Conform	USP<62>
Salmonella	Negative	Conform	USP<62>
Staphylococcus	Negative	Conform	USP<62>
Bulk Density	0.6-0.85g/ml	0.60g/ml	USP<616>
Particle Size	Thru20 mesh	100%	USP<786>Sieving
	Thru40 mesh	60%	
	Thru60 mesh	12%	

Conclusion:

The test results correspond to FCC.

Li min

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