JINAN JIUAN ESTER CHEMICAL CO.,LTD.

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CERTIFICATE OF ANALYSIS

Product Name :	Betaine Monohydrate	Country of Origin:	China
Batch No.:	20170501	Quantity:	500Kg
Manufacture Date:	2017.05.04	Package:	25Kg/Drum
Expiry Date:	2019.05.03	Standard:	USP

Item	Specification	Results	Test Method
Appearance	White crystalliner powder	Conform	Visual
Assay(on dry basis)	NMT 99.0%	99.10%	Titration
Loss on Drying	NMT 15%	13.92%	Drying(105℃,3h)
pH(10% aqua):	5.0-7.0	6.78	pH meter
Chloride:	NMT 0.01%	Conform	Colorimetric method
Sulphate:	NMT 0.01%	Conform	Colorimetric method
Residue on Ignition	NMT 0.1%	0.04%	Electric furnace(550℃)
Heavy Metals	NMT 10 ppm	Conform	Colorimetric method
Arsenic	NMT 1ppm	Conform	ICP
Lead	NMT 1ppm	Conform	ICP
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>
Particle Size	Thru20 mesh	100%	Sieving

Conclusion:

The test results correspond to pharmaceutical grade of In-house Standard.

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