



## Certificate of Analysis

<b>Product Name</b>	Citicoline (CDP-Choline)	<b>Manufacturing Date</b>	Nov 08, 2021
<b>CAS NO.</b>	987-78-0	<b>Expiring Date</b>	Nov 07, 2024
<b>Batch Quantity</b>	1400KG	<b>Country of Origin</b>	China
<b>Batch No.</b>	CDP211108	<b>GMO Status</b>	NON-GMO

Items	Standard	Results	Method
Assay	98.0% - 102.0%	100.2%	HPLC
Purity	≥99.0%	99.90%	HPLC
Identification	NMR	Conforms	NMR
Appearance	White crystalline powder	Conforms	Visual
Clarity and color	Colorless and clear	Conforms	CP2020
Particle Size	100% pass 20 mesh	Conforms	CP2020
Bulk Density	0.4-0.5 g/cm <sup>3</sup>	0.47 g/cm <sup>3</sup>	CP2020
PH	2.5-3.5	2.9	CP2020
5'-CMP	≤1.0%	0.2%	HPLC
Ammonium	≤0.05%	Conforms	CP2020
Free phosphoric acids	≤0.01%	Conforms	CP2020
Loss on drying	≤5.0%	2.3%	CP2020
<b>HEAVY METALS</b>			
Heavy Metals	≤10ppm	Conforms	EN 15763:2009
Arsenic (As)	≤2ppm	Conforms	ICP-MS
Lead (Pb)	≤3ppm	Conforms	ICP-MS
Cadmium (Cd)	≤1ppm	Conforms	ICP-MS
Mercury (Hg)	≤0.1ppm	Conforms	ICP-MS
<b>MICROBIOLOGICAL CONTROL</b>			
Total plate count	≤1000cfu/g	Conforms	CP2020
Fungi count	≤100cfu/g	Conforms	CP2020
Total yeast & molds	≤100cfu/g	Conforms	CP2020



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**NJ Warehouse:** 52 Butler Street, Unit A Elizabeth, NJ 07206

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Total coliforms	≤10cfu/g	Conforms	CP2020
Escherichia coli	Negative/10g	Conforms	CP2020
Salmonella species	Negative/25g	Conforms	CP2020
Staphylococcus	Negative/g	Conforms	CP2020
Storage	Easy to absorb moisture and agglomerate. Store in cool and dry place.		
<b>Conclusion</b>	<b>Meet the specifications.</b>		