

## CERTIFICATE OF ANALYSIS

<b>Product Name:</b>	<b>Citicoline sodium</b>		
<b>Batch No.</b>	CJ20220101	<b>Cas No.</b>	33818-15-4
<b>Manufacturing Date</b>	January 1, 2022	<b>Expiry Date TO</b>	December 31, 2024
<b>Quantity</b>	500kg	<b>Quality Standard</b>	CP2020
<b>Analytical results</b>			
<b>Items</b>	<b>Specifications</b>		<b>Results</b>
<b>Description</b>	A white crystalline or crystalline powder, odorless; Freely soluble in water and insoluble in ethanol and acetone		Complies
<b>Identification</b>	(1) A green colour is produced		Complies
	(2) The retention time of the principal peak in the chromatogram obtained with the test solution is identical with that of the principal peak in the chromatogram obtained with the reference solution		Complies
	(3) The infrared absorption spectrum is concordant with the standard spectrum.		
	(4) The aqueous solution yields the reaction (1) characteristic of sodium salts		
<b>pH</b>	6.0 - 7.5	6.7	
<b>Clarity, color of solution</b>	Clear, colorless		Complies
<b>Chloride</b>	≤0.05%		Complies
<b>Ammonium salt</b>	≤0.05%		Complies
<b>Iron salt</b>	≤0.01%		Complies
<b>Phosphate</b>	≤0.1%		Complies
<b>Related substances</b>	5' -CMP ≤0.3%		0.002%
	Single impurity ≤0.2%		0.02%
	Total Another Impurity ≤0.7%		0.03%
<b>Residual solvents</b>	Limit of methanol ≤0.3%		Undetected
	Limit of ethanol ≤0.5%		Undetected
	Limit of acetone ≤0.5%		Undetected
<b>Loss on drying</b>	≤6.0%		1.10%
<b>Heavy Metals</b>	≤5ppm		Complies
<b>Arsenic salt</b>	≤0.0001%		Complies
<b>Endotoxin</b>	<0.3 EU/mg		Complies
<b>Limit of microbe</b>	Total bacterial count ≤100 CFU/g		<10
	Yeast & Mold ≤50 CFU/g		<10
	E. Coli: Negative		Undetected
<b>Assay</b>	≥98.0%		99.80%
<b>Conclusion</b>	Meet the Specifications		

Inspector: Carlifor Wu

Verifier: Jack He