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## **CERTIFICATE OF ANALYSIS**

Product Name	CITICOLINE SODIUM	Batch Number	SC 20200115
Cas No.	33818-15-4	Manufacture Date	Jan.15,2020
Quantity	500kg	Expiry Date	Jan.14,2022

Testing items	Specifications	Results	
Description	A white or almost white crystalline powder,odoress	Conforms	
Identification	<ol> <li>Chemical reaction</li> <li>The retention time complies to the standard</li> <li>Infrared absorption spectrum complies to the standard</li> <li>Show sodium flame</li> </ol>	Positive reaction Conforms Conforms Conforms	
PH	6.0-7.5	6.9	
Clarity,color	Clear,colorless	Conforms	
Related substaances	5'-CMP≤0.30% Single impurity ≤0.20% Total impurity ≤0.70%	0.013% 0.0045% 0.0088%	
Residual solvents	Limit of methanol ≤0.30%  Limit of ethanol≤0.50%  Limit of acetone ≤0.20%	Undetected Undetected Undetected	
Limit of chloride	≤0.05%	Conforms	
Limit of ammonium salt	≤0.05%	Conforms	
Limit of iron salt	≤0.01%	Conforms	
Limit of phosphate	≤0.1%	Conforms	
Limit of arsenic salt	≤0.0001%	Conforms	
Loss on drying	≤6.0%	0.3%	
Heavy metals	≤5ppm	Conforms	
Endotoxin	≤0.30EU/mg	Conforms	
Total bacterial count ≤1000CFU/g  Yeast&Mold≤100 CFU/g  E.Coli:Negative		12CFU/g <12 CFU/g Negative	
Assay(HPLC)	≧98.00%	99.37%	
Conclusion	Comply with the CP2010 standard		