

Certificate of Analysis

Product Name:	CITICOLINE SODIUM	Manufacture Date:	Oct.22,2020
Batch Number:	KN20201022	Analysis Date:	Oct.23,2020
Batch Quantity:	570.0Kg	Expiration Date	Oct.21,2023

Test/Observation	Specifications	Result
Assay	$\geq 98.0\%$	99.45 %
Appearance	White crystalline or crystalline powder, odorless	Complies
Solubility	Freely soluble in water, insoluble in ethanol, in acetone and in chloroform	Complies
Identification A	Color reaction	Complies
Identification B	The retention time of major peak for the sample,solution should be complied with that,of the standard solution	Complies
Identification C	IR	Complies
Identification D	The aqueous solution yields the reaction characteristic of sodium salts	Complies
PH	6.0~7.5	6.5
Clarity and color of solution	Should be clear and colorless	Complies
Chlorides	$\leq 0.05\%$	Complies
Ammonium salt	$\leq 0.05\%$	Complies
Iron	$\leq 0.01\%$	Complies
Phosphates	$\leq 0.1\%$	Complies
Loss on drying	$\leq 6.0\%$	$\leq 0.2\%$
Heavy metals	$\leq 0.0005\%$	Complies
Arsenic	$\leq 0.0001\%$	Complies
Related substances	5'-CMP $\leq 0.3\%$ Other single impurity $\leq 0.2\%$ Other total impurities $\leq 0.7\%$	0.019% 0.0047% 0.0089%
Residual solvents	Methanol $\leq 0.3\%$ Ethanol $\leq 0.5\%$ Acetone $\leq 0.5\%$	N.D. N.D. N.D.
Bacterial endotoxins	$<0.30\text{EU/mg}$	Complies
Microbial contamination	Total bacterial count $\leq 1000\text{cfu/g}$ Yeast and molds $\leq 100\text{cfu/g}$ E. Coli should be N.D.	$<11\text{cfu/g}$
Conclusion	The product meets with the CP2010 standard.	

<b>Packing description</b>	Sealed export grade drum & double sealed plastic bag
<b>Storage</b>	Store in well closed containers; Keep in cool & dry place not freeze. Avoid strong light and heat.
<b>Shelf life</b>	2 years when properly stored



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