



Certificate of Analysis

Product Name:	Citicoline Sodium	CAS No.:	33818-15-4
Batch Number:	LYPH220712	Manufacture Date:	Jul.12, 2022
Batch Quantity:	500 KG	Certificate Date:	Jul.16, 2022
Analysis Standard:	ChP 2015 Part II	Expiration Date	Jul.11, 2024
Grade:	Pharmaceutical Grade	Molecular Formula	C ₁₄ H ₂₅ N ₄ NaO ₁₁ P ₂

Item		Standard	Results
Appearance		White powder or crystalloid powder, smell less. Soluble easily in water, insoluble in ethanol, acetone.	Complied
Identification	Chemical reaction		Positive reaction
	The retention time of a major peak meets the requirements.		Complied
	IR: consistent with the spectrum obtained with reference substance.		Complied
	Show sodium flame		Positive reaction
Acid Value		6.0~7.5	6.4
Clarity and color of solution		Clarifying, colorless	Complied
Chlorides		≤0.05%	Complied
Ammonium		≤0.05%	Complied
Iron		≤0.01%	Complied
Phosphate		≤0.1%	Complied
Related substance	5'-CMP	≤0.3%	0.005%
	The other largest impurities	≤0.2%	0.002%
	The other total impurities	≤0.7%	0.006%
Residual solvents	Methanol	≤0.3%	No detected
	Ethanol	≤0.5%	No detected
	Acetone	≤0.5%	No detected
Heavy metals		≤5ppm	Complied
Arsenic		≤0.0001%	Complied
Free phosphoric acids		≤0.1%	<0.1%
Loss on drying		≤6.0%	1.6%
Endotoxin		≤0.3EU/mg	Complied
Assay(Dry content)		≥98%	100.4%
Conclusion		Conform with specification.	
Storage		Store in cool & dry place not freeze, keep away from strong light and heat.	
Shelf life		2 years when properly stored.	

Quality Assurance Officer: 王炎

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