

# SINOWAY INDUSTRIAL CO.,LTD.

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## Certificate of analysis

Product: CITICOLINE SODIUM  
Batch No.: ZJ200903  
Date of Production: Sep.09,2020  
Expiry Date: Aug.,2022

Quantity: 170kg  
Date of Analysis: Sep.20,2020  
Analysis according: CP2020

	Items	Requirements	Results
1.	Description	A white or almost white crystalline powder, odorless	Complies
2.	Identification	1) Chemical reaction 2) The retention time complies to the standard 3) infrared absorption spectrum complies to the standard 4) show sodium flame	Positive reaction  Complies Complies  Complies
3.	pH	6.0 ~ 7.5	6.6
4.	Clarity, color	Clear, colorless	Complies
5.	Related substances	5, -CMP $\leq 0.30\%$	0.01%
		Single impurity $\leq 0.20\%$	0.02%
		Total Another Impurity $\leq 0.70\%$	0.04%
6.	Residual solvents	Limit of methanol $\leq 0.30\%$	Undetected
		Limit of ethanol $\leq 0.50\%$	Undetected
		Limit of acetone $\leq 0.50\%$	Undetected
7.	Limit of chloride	$\leq 0.05\%$	Complies
8.	Limit of ammonium salt	$\leq 0.05\%$	Complies
9.	Limit of iron salt	$\leq 0.01\%$	Complies
10.	Limit of phosphate	$\leq 0.1\%$	Complies
11.	Limit of arsenic salt	$\leq 0.0001\%$	Complies
12.	Loss on drying	$\leq 6.0\%$	1.3%
13.	Heavy Metals	$\leq 5\text{ppm}$	Complies
14.	Endotoxin	$\leq 0.30\text{ EU/mg}$	Complies
15.	Limit of microbe	Total bacterial counts $\leq 800\text{ CFU/g}$	<10CFU/g
		Yeast & Mold $\leq 80\text{ CFU/g}$	<10CFU/g
		E. Coli: Negative	Undetected
16.	Assay(HPLC)	$\geq 98.00\%$	99.76%
Conclusion:		Meets the requirements	

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