



Wuhan HengHeDa Pharm Co., Ltd

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Wuhan Economic& Technological Development Zone, Wuhan, China

CERTIFICATE OF ANALYSIS

Product and Batch Information

Product Name	Beta-Nicotinamide Mononucleotide (NMN)		
Batch No.	EF190815	CAS#	1094-61-7
Manufacture Date	Aug. 15th, 2019	Expiry Date	Aug. 14th, 2021
Country of Origin	P.R. China	Reference	EFFE 18
Item	Specification	Result	Test Method

Active Ingredient

Purity(On dry Basis)	NLT 98%	98.50%	HPLC
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Physical Control

Identification	1H NMR spectra correspond to reference standard	Conforms	1H NMR
	13C NMR spectra correspond to reference standard	Conforms	13C NMR
	LC-MS retention time and m/z correspond to reference standard	Conforms	LC-MS
Appearance	White to off-white crystalline powder	Conforms	Visual
Odor & taste	Characteristic	Conforms	Organoleptic
Appearance of solution	5%w/v in water: Colorless to pale yellow and clear	Conforms	Organoleptic
Water Content	NMT 5.0%	0.30%	Karl Fischer
Residue on ignition	NMT 2.0%	0.20%	USP<281>
PH(10mg/ml, 25°C)	4.5 - 6.5	5.53	CP<0631>

Chemical Control

Heavy Metals	NMT 10ppm	Conforms	USP<231>
Arsenic (As)	NMT 1ppm	Conforms	ICP-MS
Cadmium (Cd)	NMT 0.5ppm	Conforms	ICP-MS
Lead (Pb)	NMT 0.5ppm	Conforms	ICP-MS
Mercury (Hg)	NMT 0.5ppm	Conforms	ICP-MS

Microbiological Control

Total Plate Count	NMT 1,000cfu/g	<10 cfu/g	USP 40
Yeast & Mold	NMT 1,00cfu/g	<10 cfu/g	USP 40
Salmonella	Negative	Negative	USP 40
E.Coli	Negative	Negative	USP 40
Staphylococcus Aureus	Negative	Negative	USP 40
Pseudomonas aeruginosa	Negative	Negative	USP 40
Bile-tolerant Gram-Negative Bacteria	Negative	Negative	USP 40
Candida albicans	Negative	Negative	USP 40
Clostridia	Negative	Negative	USP 40

Packing and Storage

Packing	Pack in paper-Carton and two plastic-bags inside.		
Storage	Store in a well-closed container away from moisture and direct sunlight.		
Shelf Life	2 years if sealed and stored properly.		

Inspection

Shen Wu

Director

King Yang

