

CERTIFICATE OF ANALYSIS

Product Name	β -Nicotinamide adenine dinucleotide disodium salt	Batch No	PY-NADD20190331
Quantity	50KG	Analysis Date	Apr.02,2019
Mfg. Date	Mar.31,2019	Exp. Date	Mar.30,2021
CAS No.	53-84-9	Standard	Enterprise Standard

No.	Item	Specification	Result
1.	Appearance	Slightly yellow Powder	Complies
2.	UV Spectral Analysis 1. ϵ at 260nm and pH 10 2. Ratio at pH 10 A_{250}/A_{260} A_{250}/A_{260} A_{250}/A_{260} 3. ϵ at 340nm and pH 10	$(14.4 \pm 0.5) \times 10^3 \text{ L/mol/cm}$ 0.82 ± 0.03 0.23 ± 0.02 0.43 ± 0.01 $(6.3 \pm 0.2) \times 10^3 \text{ L/mol/cm}$	$14.4 \times 10^3 \text{ L/mol/cm}$ 0.82 0.25 0.44 $6.3 \times 10^3 \text{ L/mol/cm}$
3.	Water content	$\leq 8\%$	6.8%
4.	Total heavy metals	$< 10 \text{ ppm}$	$< 0.7 \text{ ppm}$
5.	Arsenic	$< 3 \text{ ppm}$	2.6ppm
6.	Lead	$< 2 \text{ ppm}$	$< 0.05 \text{ ppm}$
7.	Mercury	$< 1 \text{ ppm}$	$< 0.1 \text{ ppm}$
8.	Cadmium	$< 1000 \text{ cfu/g}$	$< 10 \text{ cfu/g}$
9.	Yeast & Mold	$< 100 \text{ cfu/g}$	$< 10 \text{ cfu/g}$
10.	E.Coli	Negative	Negative
11.	Salmonella	Negative	Negative
12.	Purity(By HPLC)	$\geq 95.0\%$	97.2%
13	Particle size	Report for information	D(50):31.7um D(90):110.6um
14	NADH Na_2 Content (By enzymatic analysis with ADH at pH 7.5,using spectrophotometer,abs.340 nm)	$\geq 90.0\%$	97.1%
15.	Conclusion	Conform with Enterprise Standard.	

Analyst: xuli

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