Chengdu PNP Biotech Co., Ltd.

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STABILITY DATA

β-Nicotinamide Mononucleotide 99.0%

This document presents the stability profile of β-Nicotinamide Mononucleotide 99.0% supplied by Chengdu PNP Biotech Co., Ltd. Samples were packed in the normal commercial package and stored under the conditions stated for each study, and the product was tested at every time point shown below. The programme covers a long-term study and an accelerated study, conducted in accordance with the ICH Q1A methodology (and the corresponding pharmacopeial stability guideline for drug substances), each performed on three separate, non-consecutive production batches, with the analytical results from testing actually carried out at each time point.

Product Name	β-Nicotinamide Mononucleotide 99.0%	**CAS No.**	1094-61-7
Molecular Formula	C11H15N2O8P	**Molecular Weight**	334.22

Long-Term Stability

Condition: 25 ± 2 °C / 60 ± 5 % RH. Time points are expressed in months. Each batch is identified in the merged row above its results; all batches were stored through the final time point, and every listed result is from testing performed at that time point.

The shelf life stated for this product is confirmed by these real-time long-term stability studies.

Test Item	Specification	0 m	3 m	6 m	9 m	12 m	18 m	24 m
Batch LT-1 | Manufacture 2023-11-08 | Study start 2023-11-15								
Appearance / color	White to off-white crystalline powder	Conforms	Conforms	Conforms	Conforms	Conforms	Conforms	Conforms
Purity	≥ 99.0%	99.54%	99.48%	99.50%	99.42%	99.44%	99.34%	99.33%
Assay (on dried basis)	98.0% - 101.0%	98.90%	98.95%	98.88%	98.86%	98.93%	98.88%	98.86%
Loss on Drying	≤ 0.5%	0.21%	0.23%	0.23%	0.25%	0.27%	0.29%	0.33%
Standard Plate Count	≤ 1,000 cfu/g	107 cfu/g	81 cfu/g	134 cfu/g	124 cfu/g	184 cfu/g	256 cfu/g	252 cfu/g
Yeast & Mold	≤ 100 cfu/g	5 cfu/g	11 cfu/g	9 cfu/g	9 cfu/g	15 cfu/g	23 cfu/g	22 cfu/g
Batch LT-2 | Manufacture 2024-04-03 | Study start 2024-04-10								
Appearance / color	White to off-white crystalline powder	Conforms	Conforms	Conforms	Conforms	Conforms	Conforms	Conforms
Purity	≥ 99.0%	99.58%	99.57%	99.54%	99.48%	99.53%	99.42%	99.37%
Assay (on dried basis)	98.0% - 101.0%	98.90%	98.91%	98.91%	98.89%	98.92%	98.86%	98.85%
Loss on Drying	≤ 0.5%	0.19%	0.21%	0.23%	0.25%	0.26%	0.29%	0.30%
Standard Plate Count	≤ 1,000 cfu/g	82 cfu/g	135 cfu/g	57 cfu/g	185 cfu/g	133 cfu/g	206 cfu/g	97 cfu/g
Yeast & Mold	≤ 100 cfu/g	9 cfu/g	4 cfu/g	8 cfu/g	10 cfu/g	13 cfu/g	13 cfu/g	16 cfu/g
Batch LT-3 | Manufacture 2024-09-11 | Study start 2024-09-18								
Appearance / color	White to off-white crystalline powder	Conforms	Conforms	Conforms	Conforms	Conforms	Conforms	Conforms
Purity	≥ 99.0%	99.46%	99.44%	99.42%	99.40%	99.39%	99.33%	99.27%
Assay (on dried basis)	98.0% - 101.0%	98.94%	98.95%	98.95%	98.89%	98.86%	98.90%	98.85%
Loss on Drying	≤ 0.5%	0.20%	0.21%	0.23%	0.25%	0.26%	0.28%	0.32%
Standard Plate Count	≤ 1,000 cfu/g	103 cfu/g	102 cfu/g	71 cfu/g	156 cfu/g	73 cfu/g	128 cfu/g	245 cfu/g
Yeast & Mold	≤ 100 cfu/g	6 cfu/g	12 cfu/g	8 cfu/g	5 cfu/g	17 cfu/g	12 cfu/g	23 cfu/g

Accelerated Stability

Condition: 40 ± 2 °C / 75 ± 5 % RH. Time points are expressed in months.

Accelerated data are supportive only; the shelf life is ultimately confirmed by the real-time long-term studies above.

Test Item	Specification	0 m	1 m	2 m	3 m	6 m
Batch ACC-1 | Manufacture 2023-10-24 | Study start 2023-10-31						
Appearance / color	White to off-white crystalline powder	Conforms	Conforms	Conforms	Conforms	Conforms
Purity	≥ 99.0%	99.48%	99.43%	99.41%	99.31%	99.16%

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Test Item	Specification	0 m	1 m	2 m	3 m	6 m
Batch ACC-1 | Manufacture 2023-10-24 | Study start 2023-10-31						
Assay (on dried basis)	98.0% - 101.0%	98.92%	98.93%	98.94%	98.92%	98.88%
Loss on Drying	≤ 0.5%	0.19%	0.21%	0.23%	0.26%	0.30%
Standard Plate Count	≤ 1,000 cfu/g	89 cfu/g	136 cfu/g	160 cfu/g	167 cfu/g	153 cfu/g
Yeast & Mold	≤ 100 cfu/g	4 cfu/g	11 cfu/g	7 cfu/g	18 cfu/g	17 cfu/g
Batch ACC-2 | Manufacture 2023-12-06 | Study start 2023-12-13						
Appearance / color	White to off-white crystalline powder	Conforms	Conforms	Conforms	Conforms	Conforms
Purity	≥ 99.0%	99.37%	99.38%	99.30%	99.30%	99.11%
Assay (on dried basis)	98.0% - 101.0%	98.97%	98.94%	98.94%	98.86%	98.86%
Loss on Drying	≤ 0.5%	0.20%	0.23%	0.25%	0.26%	0.31%
Standard Plate Count	≤ 1,000 cfu/g	47 cfu/g	84 cfu/g	174 cfu/g	144 cfu/g	304 cfu/g
Yeast & Mold	≤ 100 cfu/g	8 cfu/g	13 cfu/g	11 cfu/g	8 cfu/g	22 cfu/g
Batch ACC-3 | Manufacture 2024-01-17 | Study start 2024-01-24						
Appearance / color	White to off-white crystalline powder	Conforms	Conforms	Conforms	Conforms	Conforms
Purity	≥ 99.0%	99.62%	99.50%	99.50%	99.39%	99.22%
Assay (on dried basis)	98.0% - 101.0%	98.95%	98.93%	98.89%	98.91%	98.90%
Loss on Drying	≤ 0.5%	0.20%	0.22%	0.23%	0.24%	0.30%
Standard Plate Count	≤ 1,000 cfu/g	59 cfu/g	118 cfu/g	75 cfu/g	74 cfu/g	139 cfu/g
Yeast & Mold	≤ 100 cfu/g	8 cfu/g	10 cfu/g	6 cfu/g	10 cfu/g	14 cfu/g

Legend: “Conforms” means the attribute is consistent with the initial (0-month) value and meets the specification.

Prepared by: Mia Yu Approved by: Charlie Wang Date: Nov. 06, 2026