



杭州海蓝化工有限公司  
HANGZHOU HAILAN CHEMICAL CO.,LTD

CERTIFICATE OF ANALYSIS

COA No.:08202502201

|                     |                                                    |
|---------------------|----------------------------------------------------|
| Product Name        | $\beta$ -Nicotinamide adenine dinucleotide hydrate |
| CAS Registry number | 53-84-9                                            |
| Structure           |                                                    |
| MF                  | $C_{21}H_{27}N_7O_{14}P_2 \cdot xH_2O$             |
| Batch number        | 202411201                                          |
| Date of manufacture | 20241120                                           |
| Retest date         | 20261119                                           |

| Index Name                                | Specifications                        | Results                      |
|-------------------------------------------|---------------------------------------|------------------------------|
| Appearance                                | White to off-white crystalline powder | Off-white crystalline powder |
| Purity(HPLC)                              | $\geq 99.0\%$                         | 99.4%                        |
| Content (enzyme.)<br>(Calc. on dry basis) | $\geq 99.0\%$                         | 99.1%                        |
| Water contents                            | $\leq 10\%$                           | 6.7%                         |
| pH value in water(100 mg/ml)              | 2~4                                   | 2.6                          |
| Organic solvents(GC)                      | $\leq 1\%$                            | <0.1%                        |
| Sodium content                            | $\leq 1\%$                            | <0.01%                       |
| Cadmium content                           | $\leq 0.1$ ppm                        | N.D.                         |
| Lead content                              | $\leq 0.5$ ppm                        | N.D.                         |
| Mercury content                           | $\leq 0.1$ ppm                        | N.D.                         |
| Total microbial count                     | $\leq 500$ CFU/g                      | $\leq 10$                    |
| Conclusion                                | Meets the Enterprise requirements     |                              |

HANGZHOU HAILAN CHEMICAL CO., LTD.  
QUALITY CONTROL DEPARTMENT