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POHANG UNIVERSITY OF SCIENCE AND TECHNOLOGY

NAD+

Product Name: N500mg
Source: Blending of Raw Materials
Dosage Form: Liquid Cartridge
Specification: 3 mL/Cartridge **Lot:** 26078
Manufacture Date: March 18, 2026 **Expiry:** March 17, 2027

Test Item	Specification		Result
Appearance	Clear, colorless to yellow liquid, free from visible foreign particles		Complies
pH	4.7 – 5.3		5.2
Purity	≥ 97%		99 %
Endotoxin	< 10 EU/mg		Complies
Microbial Test	Total bacteria Count	< 10 CFU	Complies
	Mold and Yeast Count	< 10 CFU	Complies
Preservative Effectiveness Test	*E. coli*: Initial count 2.0 × 10^6 CFU/g(mL); Log_{10} reduction >4.30 at 2 days and >5.30 at 7, 14, and 30 days		Complies
	P. aeruginosa: Initial count 2.0 × 10^6 CFU/g(mL); Log_{10} reduction >4.30 at 2 days and >5.30 at 7, 14, and 30 days		Complies
	S. aureus: Initial count 7.0 × 10^6 CFU/g(mL); Log_{10} reduction >4.84 at 2 days and >5.84 at 7, 14, and 30 days		Complies
	C. albicans: Initial count 4.0 × 10^4 CFU/g(mL); Log_{10} reduction >2.60 at 2 days and >3.60 at 7, 14, and 30 days		Complies
	A. brasiliensis: Initial count 6.0 × 10^5 CFU/g(mL); Log_{10} reduction >0.77 at 2 days, >2.77 at 7 days, >4.77 at 14 days, and >4.47 at 30 days		Complies

Summary

The test results demonstrated that the batch met all established specifications. The appearance was a clear, colorless to yellow liquid free from visible foreign particles. The pH was 5.2, within the specified range of 4.7 – 5.3. The purity was 99 %, meeting the requirement of NLT 97 %. The endotoxin test complied with the acceptance criterion of NMT 10 EU/mg. The microbial test also complied with the established criteria, with the total aerobic microbial count and total yeast and mold count both within the specified limits. The preservative effectiveness test was performed using *E. coli*, *P. aeruginosa*, *S. aureus*, *C. albicans*, and *A. brasiliensis*. All test organisms met the required Log_{10} reduction criteria through Day 30. Therefore, the sample complies with the acceptance criteria. Accordingly, this batch was found to be acceptable with respect to the established quality specifications.

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Conclusion

Classification	Department / Title	Name	Date
Prepared by	POSTECH	KNY	2026.03.28
Approved by	Head	Jack	2026.03.30