



CERTIFICATE OF ANALYSIS

Product Name	D-Panthenol (USP40)
CAS No.	81-13-0
Batch Number	191102E06
Batch Quantity	1000kgs
Date Of Manufacture	Nov. 02, 2019
Date of Expiry	Nov. 01, 2021
Date Of Report	Nov. 02, 2019

This is to certify that the quality of the subject product is as follows:

Item	Standard	Test Result
Appearance	A colorless or slightly yellowish, viscous hygroscopic liquid (may crystallized on storage)	Conform
Identification		
A: Infrared Absorption 〈197F〉	Concordant with the reference spectrum	Conform
B: The Sample solution: a deep blue color develops.	Conform to USP40	Conform
C. The Sample solution : a purplish red color develops.	Conform to USP40	Conform
Specific optical rotation	+29.0° ~+31.5°	30.8°
Water determination	≤ 1.0%	0.26%
Limit of aminopropanol	≤ 1.0%	<0.5%
Residue on ignition	≤ 1.0%	0.1%
Refractive Index (20℃)	1.495~1.502	1.497
Heavy metals	≤20ppm	<10ppm
Assay	98.0%-102.0%	98.60%
Conclusion: The results conform to the standard of USP40.		

