



山东八方化工科技有限公司

SHANDONG OCTAGON CHEMICALS LIMITED



CERTIFICATE OF ANALYSIS

Product Name	D-Penicillamine (Cas 52-67-5)		
Batch No.	PAM202305-15	Mfg. Date	2023.05.19
Rep. Date	2024.12.06	Retest Date	2026.05.18
Packing	20KG/Drum	Batch Quantity	40.00KG
Test Items	Standards: USP2021		Results
Appearance	A white or practically white crystalline powder, having a light, characteristic odor		A white crystalline powder
Identification	A. IR B. Color reaction I C. Color reaction II		Conforms
Solubility	Freely soluble in water, slightly soluble in ethanol		Conforms
PH	4.5~5.5		5.1
Specific optical rotation	-61.0°~65.0°		-62.7°
Residue on ignition	NMT0.1%		0.07%
Penicillamine disulfide	NMT1.0%		0.65%
Limit of penicillin activity	NMT0.2u/g		<0.2u/g
Mercury	NMT0.002%		0.001%
Loss on drying	NMT0.5%		0.1%
Assay	98.0%~101.0%		99.1%
Residual solvents	N-Butanol: NMT5000ppm Methanol: NMT3000ppm Triethylamine: NMT5000ppm		107ppm 2299ppm 1288ppm
Conclusion	It meets the requirements of USP2021 Standards		
Storage	Store in an air-tight container at ambient temperature.		
Tested By: LI	Reviewed By: WEI		Approved By: ZHANG

