

Shandong Guanghao Biological Products Co., Ltd.
山东广昊生物制品有限公司

CERTIFICATE OF ANALYSIS

Product: Chondroitin Sulfate Sodium Quantity: 2000kg
Batch No.: CS20220106 Test Method: USP 40 by CPC Titration & HPLC
Manufacture Date: 06 Jan., 2022 Report Date: 06 Jan., 2022
Origin: Porcine Cartilage Expiry Date: 05 Jan., 2025

ITEMS	STANDARD	RESULTS	TEST METHOD
Appearance	White to Off-white Free Flowing Powder	PASS	USP40
Identification	A: Infrared Absorption	PASS	USP40<197K>
	B: A solution containing 0.5g in 10 ml of water meets the requirements of Sodium		USP40<191>
Clarity and Color of Solution	0.35 Max at 420nm	PASS	USP40
Chondroitin Sulfate Sodium Assay	90% Min (O.D.B by CPC Titration)	98.90%	USP40
	90% Min (O.D.B by E-HPLC)	103.5%	
Loss On Drying	12.0% Max	10.18%	USP40<731>
Protein	6.0% Max	3.40%	USP40
Specific Rotation	-20° ---- -30°	-24.50 °	USP40<781S>
PH	5.5---7.5	6.60	USP40<791>
Bulk Density	0.55g/ml Min	0.66g/ml	USP40
Particle Size	100% through 80 mesh	PASS	USP40
Residue On Ignition	20%-----30%	25.40%	USP40<281>
Heavy Metals	10PPM Max	PASS	USP40<231>
Lead (Pb)	3mg/kg Max	PASS	USP40
Arsenic (As)	1mg/kg Max	PASS	USP40
Cadmium (Cd)	1mg/kg Max	PASS	USP40
Mercury (Hg)	0.1mg/kg Max	PASS	USP40
Organic Volatile Impurities	Meets the Requirements	PASS	USP40
Electrophoretic purity	Meets the Requirements	PASS	USP40
Total Plate Count	1,000cfu/g Max	PASS	USP40<2021>
Yeast & Mold	100cfu/g Max	PASS	USP40
E.Coli	NEGATIVE	NEGATIVE	USP40<2022>
Salmonella	NEGATIVE	NEGATIVE	USP40<2022>

CONCLUSION: COMPLY WITH THE USP40 STANDARD

INSPECTOR: Zhang Qiuping

QC MANAGER: LIJIE

