

Product Name & Description

Product Name: Premium Hydrolyzed Collagen Type II Powder (Comprehensive Joint Matrix Grade)

Description: Premium food-grade hydrolyzed collagen type II powder, derived 100% from avian sternum cartilage via controlled enzymatic hydrolysis. Unlike type I/III collagens, this type II matrix naturally co-exists with a significant, standardized concentration of Mucopolysaccharides (Chondroitin Sulfate and Hyaluronic Acid). Refined into an ultra-low molecular weight form (≤ 1500 Daltons), it features complete cold-water solubility, swift dispersion, and enhanced biological absorption kinetics, making it a powerful active ingredient for comprehensive joint comfort, cartilage regeneration, and bone density support formulas.

Key Specifications & Quality Parameters

Analysis Item	Specification Standard	Test Method Reference
Appearance	White to off-white refined powder	Visual / USP Standard
Odor & Taste	Completely neutral taste, zero characteristic animal odor	Sensory Panel (10% Solution)
Collagen Type II Content	$\geq 60.0\%$	HPLC / Hydroxyproline Assay
Chondroitin Sulfate	$\geq 20.0\%$	CPC Titration / HPLC
Hyaluronic Acid (HA)	$\geq 10.0\%$	HPLC
Average Molecular Weight	$\leq 1000 - 1500$ Daltons	Gel Permeation Chromatography
Solubility	100% soluble in cold water; clear to slight opalescent	Standard Dissolution Test
Bulk Density	$0.35 - 0.50$ g/ml	Tapped / Loose Method
pH (1% Solution at 25°C)	$5.0 - 7.0$	Potentiometric
Loss on Drying (Moisture)	$\leq 6.0\%$	105°C for 3 Hours
Residue on Ignition (Ash)	$\leq 5.0\%$	Gravimetric (550°C)
Heavy Metals (as Pb)	≤ 10 ppm	Atomic Absorption (AAS)
Arsenic (As)	≤ 1.0 ppm	ICP-MS
Total Aerobic Plate Count	≤ 1000 cfu/g	USP / GB Standard
Molds & Yeasts	≤ 100 cfu/g	USP / GB Standard
Salmonella & E. Coli	Absent / 25g & Absent / g	Negative

Synergistic 3-in-1 Action Mechanism for Joint Support

Unlike standard single-ingredient powders, Hydrolyzed Collagen Type II functions as a highly synergistic, naturally occurring multi-nutrient matrix:

- **Cartilage Matrix Rebuilding (Type II Peptides):** Supplies the precise amino acid building blocks that selectively stimulate chondrocytes to synthesize new extracellular matrix components, systematically repairing worn-out joint cartilage.
- **Shock Absorption Maintenance (Chondroitin Sulfate):** Attracts and holds water within the cartilage structure, maintaining optimal elastic cushion pressure to defend joints against impact shocks during physical activity.
- **Synovial Lubrication Support (Hyaluronic Acid):** Supplements the key component of synovial joint fluid. It reduces friction between bones, relieves morning joint stiffness, and prevents progressive wear and tear.

Application Matrix & Formulation Flexibility

- **Functional Powder Blends & Shakes:** Exceptional instant cold-water dispersion, making it a perfect active ingredient for joint-targeted sports nutrition powders and senior wellness drinks.
- **Two-Piece Hard Capsules & Tablets:** Its high nutritional density allows formulation of full-spectrum joint supplements in smaller capsule or tablet configurations without separate bulk blending of chondroitin and hyaluronic acid.
- **Liquid Shots & Syrups:** Stable pasteurization compatibility and zero precipitation profiles ensure excellent physical stability inside concentrated anti-aging or joint wellness liquid shots.
- **Clean Label Compatibility:** Neutral flavor profile permits easy combination with various taste variations (mint, vanilla, berry) without utilizing heavy masking chemicals.

Regulatory Compliance & Dietary System Accreditations

- **Quality System Alignment:** Produced in deeply monitored environments certified to Good Manufacturing Practices (GMP), ISO 9001, ISO 22000, and FSSC 22000 loops.
- **Global Guidelines Compliance:** Fulfills or exceeds purity guidelines specified by the US FDA, European Food Safety Authority (EFSA), and China National Standards (GB).
- **Dietary Inclusivity:** Fully accredited Halal and Kosher verified. Sourced 100% from veterinary-inspected avian sternum materials.

Packaging, Logistics & Storage Architecture

Packaging: Multi-wall heavy-duty food-grade Kraft paper outer bags integrated with a multi-layered Polyethylene (PE) moisture-barrier inner liner. Net weight: 25 KG per bag or fiber drum.

Logistical Loading Payload: Approx. 8 – 10 Metric Tons per 20ft FCL container without pallets.

Storage Guidelines: Store in the unopened original container in a clean, cool (< 25°C), and dry warehouse space (< 60% relative humidity). Keep heavily protected from direct sunlight, ambient moisture, and highly volatile aromatic compounds.

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Disclaimer: The analytical metrics reported inside this Technical Data Sheet reflect current factory quality results. Formulators are encouraged to verify specific viscosity synergy parameters when blending with high-molecular-weight plant gums.