



The Science Behind A Safe and Sustainable Fish Collagen



**From Our Waters,
To Your Wellness.**



TABLE OF CONTENT

At Vinh Wellness, we recognize that in today's market, transparency and safety are non-negotiable. That's why we control every step of our collagen supply chain, from farm to factory, ensuring not just quality, but a promise of trust to our partners.

This whitepaper demonstrates how our responsible aquaculture practices, rigorous quality controls, and scientific traceability deliver fish-skin collagen that is safer, cleaner, and sustainably sourced.

00 EXECUTIVE SUMMARY	2
01 INTRODUCTION Why Raw Material Quality Defines Collagen Performance	3
02 FARMING EXCELLENCE Controlled Environments for Consistent Quality	4
03 FEED & BIOSECURITY Science-Backed Measures for Purity and Safety	8
04 POST-HARVEST HANDLING Preserving Collagen Integrity from Pond to Processing	9
05 FULL TRACEABILITY Transparent Supply Chain from Hatchery to Hydrolysis	13
06 FARMED VS WILD SOURCE Why Freshwater Pangasius Offers a Cleaner, Safer Collagen Source?	15
07 CONCLUSION Responsible, Transparent, and Sustainable Collagen for Global Market	17
REFERENCES	19

Executive Summary

At Vinh Wellness, we know that for B2B buyers, safety, sustainability, and transparency are no longer optional, they're essential. This whitepaper provides an overview of how our fish skin collagen are derived and controlled, highlighting the systems and standards that ensure consistent purity, optimal bioavailability, and full traceability from raw material to finished ingredient.

From ASC-certified pangasius farms to collagen processing factory, we control every step to ensure quality you can trust. Our farms use clean water, carefully monitored feed, and strict biosecurity practices. As a result, our raw materials fully comply with international safety requirements and free from prohibited chemicals or unapproved antibiotics. Fish skins are processed within 24 hours to preserve collagen integrity and maintain peak freshness.

A full traceability system, combined with internationally recognized certifications (**ASC, HACCP, BRC, ISO, Halal**), provides complete transparency and confidence for our partners. Scientific evidence shows that responsibly managed freshwater aquaculture delivers a cleaner, more reliable collagen source than many wild-caught alternatives.

This integrated approach, unique to Vinh Wellness, turns farmed origin into a clear advantage, providing collagen that is **consistent, safe, and sustainably sourced**. Through responsible aquaculture, careful post-harvest handling, and monitoring at every step, we protect product integrity and give our partners the confidence they need to deliver superior products to their customers.

In summary, this whitepaper highlights with Vinh Wellness controlled raw material, and full supply chain traceability, while explaining why freshwater Pangasius is a smarter, safer choice for premium fish collagen.



Picture 1. Certificates



01 Introduction

WHY RAW MATERIAL QUALITY DEFINES COLLAGEN PERFORMANCE

1.1 Collagen Quality Begins with the Source

The sourcing, purity and consistency of fish skin are the foundation of high-quality collagen. Any variability or contamination in the raw material directly impacts the safety, effectiveness, and reliability of the final product. For B2B buyers, this means that sourcing matters as much as processing when delivering a premium, trustworthy ingredient.

1.2 Addressing Customer Concerns

Some buyers may question whether farmed fish, particularly those raised in river-based environments, are more exposed to pollutants. This whitepaper addresses these concerns by presenting technical data and scientific evidence demonstrating that responsibly managed aquaculture produces fish that meet strict standards for safety and cleanliness .

1.3 Our Approach

Vinh Wellness operates a single-source, fully traceable fish skin supply, supported by strict quality controls at every stage from ASC-certified farms to our collagen processing facilities. Fish skin raw materials are managed through our parent company, Vinh Hoan, whose core business includes large-scale fish fillet processing governed by four critical control areas: farming environment, feed and biosecurity, post-harvest handling, and rigorous testing. By managing the entire process in-house, we ensure that our collagen delivers consistent quality, uncompromising safety, and sustainable sourcing that our partners can trust.

02 Farming Excellence

CONTROLLED ENVIRONMENTS FOR CONSISTENT QUALITY



As a subsidiary of Vinh Hoan Corporation, Vinh Wellness benefits from one of the world's most integrated freshwater pangasius aquaculture systems. Vinh Hoan operates over 800 hectares of farming area with a daily processing capacity of 1,200 metric tons, ensuring consistent access to high-quality, traceable fish skins for collagen production.

This scale and integration provide Vinh Wellness with a unique advantage: consistent access to tightly controlled, traceable, and high-quality fish skins for collagen production.

All farms are located within regulated aquaculture zones designed for controlled water flow and stable hydrological conditions. This reduces exposure to industrial and agricultural pollutants while supporting consistent fish health and skin quality. The farms comply with ASC, GlobalG.A.P., and BAP standards, forming the foundation for reliable raw materials and scientifically controlled production.

2.1 Water Quality Control: Scientifically Controlled Water Ecosystem

Water quality is continuously monitored to maintain a clean and stable farming environment. The farming environment is maintained through continuous physicochemical monitoring across key water-quality parameters, including:

- pH
- Dissolved oxygen (DO)
- Total ammonia nitrogen (TAN)
- Nitrite (NO_2^-) and nitrate (NO_3^-)
- Phosphorus
- Temperature and turbidity

Data are recorded at high frequency to ensure that values remain within optimal biological thresholds for *Pangasius hypophthalmus*. This monitoring enables early detection and mitigation of environmental deviations, thereby preventing eutrophic conditions and microbiological proliferation. By preventing the accumulation of contaminants and limiting microbial proliferation, stable water conditions enhance the safety, bioavailability, and functional quality of collagen extracted from the skin.

2.2 Responsible Aquaculture Framework

Vinh Hoan implements a **five-component aquaculture framework** to safeguard fish welfare and environmental performance:



Controlled feed and nutrition, meeting BAP feed-mill standards.



Fish health and welfare management through preventive practices, strict biosecurity, continuous monitoring, and responsible disease control aligned with international standards.



Environmental stewardship, including sediment management and water-flow optimization.



Feed Control for optimal feed utilization, stable growth performance, and minimized environmental impact.



Humane transport and slaughter, reducing physiological stress prior to processing.

This integrated approach safeguards both environmental performance and raw-material quality for collagen extraction.

2.3 Heavy Metal Safety – Why Our Freshwater Pangasius is Clean

Despite common assumptions about “river fish,” freshwater-farmed pangasius from Vinh Hoan is produced under a controlled aquaculture system and consistently complies with international food safety regulations for heavy metals, including mercury, arsenic, and lead. This is the result of a controlled farming system built around three proven safeguards:

Absence of marine food-chain biomagnification

Unlike marine predatory fish, freshwater pangasius is not exposed to mercury biomagnification found in ocean food chains. As a result, it does not accumulate heavy metals associated with higher trophic levels.

Strictly controlled, BAP certified Feed

All feed ingredients are fully traceable, carefully screened, and certified in line with BAP standards. This removes common sources of heavy metal contamination often seen in less regulated aquaculture systems.

ASC-compliant water and sediment management

ASC protocols require routine sludge extraction, sediment monitoring, and effluent treatment. These measures prevent the build-up and re-suspension of contaminants, ensuring clean and water conditions throughout the farming cycle.

2.4 Certifications and Standards

– Multi-Layer Scientific Assurance

Vinh Hoan's farming and processing ecosystem is supported by a comprehensive suite of internationally recognized certifications. Together, these standards provide assurance across environmental responsibility, food safety, ethical operations, animal welfare and full traceability.

Farming Certifications

ASC (Aquaculture Stewardship Council)	Global G.A.P.	BAP (Farm + Hatchery + Feed + Processing)
 Strict requirements covering water discharge, biodiversity protection, chemical use, labor rights, and fish welfare.	 Best practices in aquaculture management, hygiene, and farm management.	 Certified across farm, hatchery, feed, and processing, enabling 3- to 4-Star BAP qualification.

Processing Certifications

HACCP, BRCGS, IFS	HALAL (Jakim, MUI)	ASC
 Ensuring hazard control, microbiological safety, and process validation.	 Verified compliance for Muslim markets.	 Preserves full traceability from pond to finished goods.

Collagen-Specific Certifications

ISO 14001, HACCP	BRCGS, GMP	Together, these certifications provide multi-layered scientific assurance, covering environmental responsibility, chemical control, food safety, ethical practices, and biological welfare and raw materials integrity, supporting the consistent, safe, and responsible production of fish collagen.
 Environmental and food safety management systems.	 Good Manufacturing Practice standards for collagen extraction and hydrolysis.	
ASC, COC	HALAL (JAKIM, MUI)	
 Full traceability of raw materials into collagen peptides.	 Verified compliance for Muslim markets.	

“Farming Practices that Define Collagen Quality”

Vinh Wellness sources fish from Vinh Hoan’s fully integrated pangasius farms, with controlled water, certified environmental practices (**ASC, GlobalG.A.P., BAP**), and strict biosecurity. Continuous monitoring of water and fish health ensures clean, high-quality raw materials. For B2B buyers, this means reliable, traceable collagen with consistent purity and performance, free from contaminants and suitable for food, nutraceutical, and cosmetic applications.



03 Feed & Biosecurity

SCIENCE-BACKED MEASURES FOR PURITY AND SAFETY

Fish health and collagen quality begin with what the fish eat and how they are protected. At Vinh Wellness, feed and biosecurity are carefully managed through evidence-based protocols designed to prevent contamination, reduce risk, and ensure consistent raw-material quality.

All feed is nutritionally balanced and contaminant-free, preventing toxin accumulation. Growth hormones and unapproved antibiotics are strictly prohibited. Combined with preventive health programs and controlled farm access, these measures minimize disease risk and eliminate harmful residues, ensuring clean, safe and consistent raw materials.

3.1 High-Quality Feed

Our nutritionally balanced feed is carefully formulated with no unsafe inputs. Strict regulations and EU standards ensure that no heavy metals or toxins are introduced. Each ingredient is controlled and verified, supporting safe, high-quality collagen production and guaranteeing product purity and consumer safety.

3.2 No hormones or Banned chemicals

We do not use growth hormones or illegal additives in raising our fish. Fish growth and health are managed naturally and through good nutrition and farming practices.

Veterinary treatments are minimal and strictly controlled. Our farming protocol forbids banned antibiotics or chemicals ensuring that no harmful residues reach the fish skin or collagen.

3.3 Vinh Hoan Hatchery

Vinh Hoan Hatchery is a 91.57-hectare, fully integrated broodstock-to-fingerling facility, established in 2019 and operational since 2022. It produces 30 million fingerlings and 1.6 billion fry annually through a science-based pipeline covering broodstock management, egg incubation, larvae rearing, and nursing.

Certified to BAP and Global G.A.P., Vinh Hoan combines superior broodstock quality, rigorous biosecurity, vaccination programs, and standardized protocols to ensure consistent, high-survival fry for Vinh Hoan's vertically integrated supply chain.

By controlling the fish lifecycle from the earliest stage, Vinh Hoan ensures that raw materials entering collagen production are reliable, traceable, and of premium quality, reducing variability and supporting the delivery of safe, high-performance collagen for industrial and nutritional applications.



Picture 2. Vinh Hoan Hatchery

3.4 Residue Control

Preventive health measures are implemented to minimize the need for antibiotics. Rigorous monitoring confirms that exported collagen is free from detectable residues. In addition, Industry data reflect continued enhancement of health management practices across Vietnam's pangasius sector, particularly among large export-oriented farms.

3.5 Biosecurity Measures

Strict biosecurity protocols, including controlled farm access, continuous health monitoring, and fingerling vaccination prevent disease transmission. Maintaining healthy, low-stress fish enhances growth and skin integrity, minimizing contamination risks. This evidence-based approach ensures clean, high-quality raw material for collagen production.



Picture 3. Feeding

3.6 Feed One Aquatic & Feed Factory

Established in June 2022, Feed One spans 48,000 m² with an annual capacity of 400,000 tons of aquafeed. Using advanced EU and US technologies, the factory achieves high automation, efficient raw-material use, and reduced environmental impact.

Feed formulations use sustainably sourced fish meal and comply with Good Manufacturing Practices, ensuring high-quality, consistent feed and precise feeding control at the farm level.. Operations meet GlobalG.A.P. and BAP standards, supporting Vinh Hoan's responsible and traceable aquaculture value chain.



Picture 4. Feed Factory



Picture 5. Vinh Hoan Feed

“Safe, Consistent Collagen Starts with Feed & Biosecurity”

Collagen quality starts with what the fish eat and how they are protected. Vinh Wellness provides nutritionally balanced, contaminant-free feed, strictly prohibits growth hormones and unapproved antibiotics, and maintains rigorous biosecurity and health monitoring protocols. Hatchery and feed operations are fully certified and traceable, ensuring consistent, high-quality raw materials. For B2B buyers, this means safe, reliable collagen with predictable purity and performance—minimizing chemical residues, disease risk, and variability, while meeting regulatory standards.



04 Post-Harvest Handling

PRESERVING COLLAGEN INTEGRITY FROM POND TO PROCESSING

After harvest, Vinh Hoan follows a tightly controlled post-processing protocol to preserve the biochemical integrity of fish skin, ensuring only high-grade raw material enters collagen extraction. These measures minimize oxidation, microbial growth, and structural breakdown of collagen fibers, protecting bioactivity and functional performance.

4.1 Immediate Processing to Preserve Freshness and Bioactivity



Picture 6. Vinh Wellness Factory

Fish skins are transferred from the processing plant to the collagen facility through a fast, temperature-controlled handling process. In addition, we are able to produce collagen from freshly harvested fish, with processing completed within 24 hours of the fish's arrival at the factory. This minimizes autolytic enzyme activity and prevents the denaturation of native collagen triple helices. The controlled temperature environment also reduces lipid oxidation, preserving peptide stability, sensory qualities, and overall collagen bioactivity.

4.2 Uniform Skin Selection for Consistency

Vinh Hoan's single-source farming system delivers skins with consistent thickness, moisture, and collagen density. Skins that do not meet physical standards, irregular size, excess fat, or atypical pigmentation, are removed. This ensures consistent collagen yield, molecular-weight distribution, and hydrolysate clarity across batches.



Picture 7. Fish Skinning



Picture 8. Material Washing Stage

4.3 Rigorous Cleaning for Purity

The skins undergo a multi-stage washing sequence, including cold-water rinsing and low-intensity mechanical agitation to remove surface impurities. A mild food-grade acid treatment is applied to eliminate residual inorganic matter, mucus proteins, and non-collagen proteins without degrading collagen, producing a clean, stable substrate for extraction.

4.4 Preservation of Collagen Structure

Throughout handling, chemical exposure is minimized to maintain the natural fibrillar architecture of collagen. By reducing shear stress, avoiding alkaline treatments, and controlling pH within a narrow range, to ensure that the native triple-helix structure remains intact prior to hydrolysis. This structural preservation directly enhances **peptide quality, flavor cleanliness, and the transparency of collagen solutions** after extraction.

4.5 Quality Screening Before Extraction

Before skins are admitted into collagen production, each batch undergoes a comprehensive quality evaluation to confirm:

- **Freshness:** color stability, absence of off-odor, and minimal oxidation.
- **Purity:** free from physical contaminants (scales, debris), chemical residues, and microbial risks.
- **Traceability:** each batch is linked to specific farms and processing plants through ASC/CoC-compliant documentation.

Only batches meeting all criteria proceed to collagen and gelatin production, ensuring high-purity collagen with low turbidity and excellent optical clarity.

“High Quality Collagen Preserved Within 24 Hours”

The quality of collagen begins immediately after harvest; how fish skins are handled determines purity, bioactivity, and consistency. Vinh Wellness applies rapid, cooled transfer, uniform skin selection, gentle cleaning, and strict structural preservation to maintain the native collagen fibers.

Every batch is screened for freshness, purity, and traceability before extraction.

For B2B buyers, this means collagen that is consistent, high-purity, and transparent, with predictable performance for food, nutraceutical, and cosmetic applications—reducing variability, minimizing contaminants, and ensuring compliance with global standards.



Quality Specification of Vinh Wellness Collagen

Standardized testing confirms the quality of collagen:

Parameter	0%	1%	2%	3%	4%	5%
Turbidity (FNU)	0.00	0.00	0.00	0.10	0.27	0.46
Transparency 620 nm (%T)	100	100	99.64	99.5	99.2	99.2
Transparency 450 nm (%T)	100	99.65	98.94	97.87	96.52	94.06
L-value (whiteness)	100	100	99.45	99.62	99.66	99.28
a-value	-0.01	-0.10	-0.15	-0.25	-0.36	-0.40
b-value	0.01	0.33	0.70	0.90	1.16	1.55

Table 1: Transparency of collagen solution

THESE RESULTS INDICATE

Extremely low turbidity, confirming minimal residual particulates.

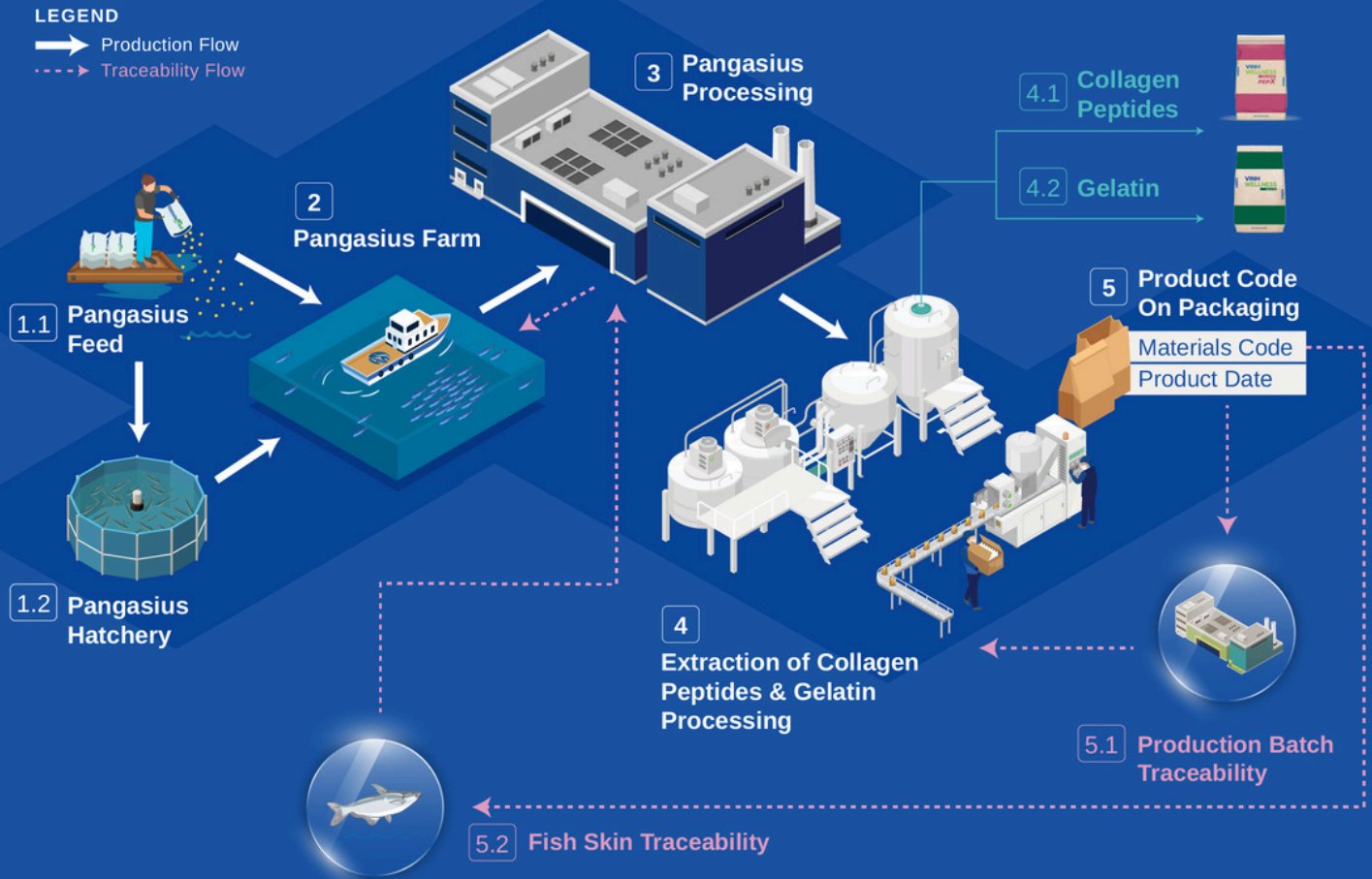
High transparency, reflecting good collagen purity and controlled hydrolysis.

Stable colorimetric values, consistent with minimal oxidation and impurities.



05 Full Traceability

TRANSPARENT SUPPLY CHAIN FROM HATCHERY TO HYDROLYSIS



01 End-to-End Traceability System



Vinh Wellness has implemented a comprehensive traceability system that tracks every batch of collagen back to its origin. From the moment fish are hatched and raised in our ponds, through harvesting, skin processing, and hydrolysis into collagen, every step is documented and auditable^[13]. Each batch of collagen can be traced to the exact farm, harvest date, and processing shift, providing full transparency for our partners.

02 Single Source Advantage



Unlike some marine collagen sources that combine skins from multiple species or farms, our collagen is single-sourced from the single-species (pangasius) farms. This single-source approach ensures consistent quality and simplifies traceability, as we control every step of the raw material.

03

Integrated Farming and Processing



Our vertically integrated operations—from farm to factory to finished product—enhance traceability. Lot codes are assigned at every stage: feed and health records at the farm, processing parameters at the factory, and lab results for the final product. This allows rapid identification and resolution of any issues at the source.

04

Audits and Certifications



Our traceability practices are regularly audited by third parties (e.g. ASC and BRC). Global food safety standards such as HACCP and ISO reinforce traceability as a core requirement. In essence, every jar or batch of our collagen carries a documented history, reinforcing trust and accountability.

05

Real-Time Monitoring



With our modern database systems, batch manufacturing records (BMR) are tracked in real time, ensuring every collagen batch is fully traceable back to its farm and processing facility. Together with single sourcing, thorough documentation, third-party audits, and international certifications, this provides B2B buyers with complete transparency, safety, and consistent quality.

“Traceable Collagen You Can Trust”

Every batch of Vinh Wellness collagen is fully traceable from hatchery to hydrolysis. Single-sourced pangasius, real-time batch monitoring, strict documentation, and third-party audits ensure transparency, safety, and consistent quality. For B2B buyers, this means confidence in a reliable, auditable ingredient that meets global standards and supports regulatory compliance.

06 Farmed Vs Wild

WHY FRESHWATER PANGASIOUS OFFERS A CLEANER,
SAFER COLLAGEN SOURCE?

6.1 Controlled Diet vs. Wild Diet

At Vinh Wellness, freshwater pangasius are raised under controlled aquaculture conditions and fed clean, nutritionally formulated diets. While wild-caught fish are influenced by natural environmental variability, farmed pangasius is raised under controlled, biosecure conditions that support predictable quality and safety outcomes.

The use of controlled diets and managed farming systems minimize exposure risks associated with environmental contaminants such as pesticides, PCBs, and other undesirable substances, providing farmed pangasius with a clear safety and consistency advantage.

In parallel, Vietnam's pangasius sector operates under strict export regulations enforced by both industry and government authorities, ensuring compliance with EU and U.S. food safety standards (ASC, 2022). Today, export-grade pangasius demonstrates a strong and reliable safety record aligned with international market requirement

6.2 Residue Monitoring and Transparency

All Vinh Wellness fish skins undergo regular testing for heavy metals, antibiotics, and other potential residues as part of our rigorous quality control program. Results consistently confirm that contaminant levels remain well below global safety limits.

Export-grade pangasius used for collagen production is subject to strict regulatory oversight and routine verification in line with international requirements. Test results are shared with clients to ensure complete transparency.

This scientific validation demonstrates that responsibly farmed fish can provide collagen that is as clean, or cleaner, than that derived from wild-caught sources.



6.3 Case Study – Mercury Levels

Mercury levels in fish are a key safety consideration, particularly for vulnerable consumer groups. Large, long-lived marine species such as tuna or swordfish can accumulate mercury over time, sometimes exceeding recommended limits.

In contrast, freshwater pangasius consistently show mercury levels well below safety thresholds (Arporn Busamongkol et al., 2014). For example, a Thai study reported mercury concentrations in small freshwater fish often below 0.5 mg/kg, while certain marine species exceeded this limit.

Other heavy metals, including lead (Pb) and cadmium (Cd), are also naturally low in farmed freshwater pangasius due to tightly controlled water and feed inputs. Unlike wild ocean fish, which may bioaccumulate contaminants through marine food chains, pangasius are small, short-lived, and raised in monitored, biosecure ponds. Scientific assessments of Vietnamese pangasius confirm minimal environmental contaminants, with toxin levels often lower than comparable fish from other regions (ASC, 2022).

For collagen production, this means farmed freshwater pangasius provide a cleaner, safer raw material with a significantly lower risk of heavy metal contamination compared to certain wild-caught fish, including deep-sea species.

6.4 Importance of Freshness

Freshness is a critical factor in collagen quality and safety. Raw fish skins processed promptly after harvest maintain superior structural integrity, lower microbial load, and better biochemical properties than skins that have been stored or delayed. At Vinh Wellness, fish skins are transferred from the processing plant to the collagen facility through a fast, temperature-controlled handling process. In addition, collagen can be produced from freshly harvested fish, with processing completed within 24 hours of the fish's arrival at the factory.

In many supply chains, raw materials may experience longer transport or interim storage before processing, which can influence freshness. By locating farms, processing facilities, and collagen production sites in close proximity, Vinh Wellness preserves the full quality of the collagen from pond to factory, ensuring a safer, cleaner, and more consistent ingredient for B2B buyers.

6.5 Sustainability Angle

Beyond chemical safety, farmed freshwater pangasius provides a sustainable source of collagen compared to wild-caught fish. ASC-certified pangasius farms operate with a relatively low environmental footprint and do not deplete wild fish populations. For buyers and consumers concerned about overfishing, this means collagen comes from a renewable, responsibly managed aquaculture resource. Sustainability also reinforces safety and quality: tightly monitored and controlled farming conditions reduce contamination risks, ensure consistent raw-material quality, and deliver a clean, reliable ingredient for B2B applications.



Picture 8. Vinh Hoan Farm



“From Our Water To Your Wellness”

Farmed freshwater pangasius benefit from controlled diets, biosecure environments, and rapid post-harvest processing, resulting in full compliance with international safety standards for heavy metals and other contaminants. Regular residue testing, traceability, and adherence to global safety standards ensure consistent, high-quality collagen. Through these controlled practices, Vinh Wellness delivers a safer, fresher, and more reliable ingredient for B2B buyers, while supporting sustainable aquaculture.

Technical Specification Section

What standards does the collagen/gelatin comply with?

European Pharmacopoeia (EP), GME , US pharmacopoeia (USP), ISO, AOAC , FDA

What are microbial limits?

Parameter	EU Limit (Reg 2073/2005)	US Limit (USP)	Japan Limit (Food Sanitation Law)	VW Spec .
Total Aerobic Count (TAMC)	< 1000 CFU/g	< 1000 CFU/g	< 1000 CFU/g	< 1000 CFU/g
Yeast & Mold (TYMC)	< 100 CFU/g	< 100 CFU/g	--	< 100 CFU/g
Salmonella	Neg. / 25g	Neg. / 10g or 25g	Negative	Negative / 25g
E. coli	Neg. / 10g	Neg. / 10g	Negative	Negative / 10g
Coliforms	--	< 10 CFU/g or Neg.	Negative	Negative / g
Staphylococcus aureus	Neg. / 1g	Neg. / 10g	Negative	Negative / g
Spores of sulfite-reducing anaerobes	< 10 CFU	-	-	< 10 CFU/g

Heavy metals thresholds?

Parameter	EU Limit (GME)	US Limit (USP / FCC)	Japan Limit (JSS / JP)	VW Spec .
Arsenic (As)	< 1.0 ppm (mg/kg)	< 1.5 ppm	< 1.0 ppm	< 0.1 ppm
Lead (Pb)	< 1.5 ppm	< 0.5 ppm	< 1.0 ppm	< 1.0 ppm
Cadmium (Cd)	< 0.5 ppm	< 0.2 ppm	--	< 0.05 ppm
Mercury (Hg)	< 0.15 ppm	< 0.3 ppm	--	< 0.15 ppm
Chromium (Cr)	< 10 ppm	< 110 ppm	--	< 10 ppm
Zinc (Zn)	< 30 ppm	< 30 ppm	--	< 30 ppm
Copper (Cu)	< 30 ppm	< 30 ppm	--	< 30 ppm
Iron (Fe)	< 30 ppm	< 30 ppm	--	< 30 ppm
Heavy Metal total	--	--	< 20 ppm	--

Regulatory compliance (EU, US FDA, etc.)

Compliance With EU Residue Regulations (Nitrofurans, Chlorate, Antibiotics)

Parameter	EU Limit	US Limit (FDA)	Japan Limit	VW Spec .	Standard (Reference)
Nitrofurans (AOZ, AMOZ, AHD, SEM)	Reference Point for Action (RPA): 0.5 µg/kg (ppb)	Zero Tolerance	Not Detected	< 0.5 ppb	EU: Reg (EU) 2019/1871 US: 21 CFR 530.41
Chlorate	< 0.01 mg/kg (ppm)	No specific MRL (Follows GRAS)	0.01 ppm (Uniform Limit)	< 0.01 ppm	EU: Reg (EU) 2020/749 US: 40 CFR 180 (EPA)
Chloramphenicol	RPA: 0.15 µg/kg (ppb)	Zero Tolerance	Not Detected	Not Detected	EU: Reg (EU) 37/2010 US: 21 CFR 530.41
Tetracyclines	< 100 µg/kg (ppb) (Standard MRL)	Variable Tolerances (See 21 CFR 556)	Variable (Positive List)	< 100 ppb	EU: Reg (EU) 37/2010 US: 21 CFR 556
Oxytetracycline	< 100 ppb	< 2000 ppb	< 200 ppb	< 100 ppb	EU: Reg (EU) 37/2010 US: 21 CFR 556.500
Chlortetracycline	< 100 ppb	< 2000 ppb	< 200 ppb	< 100 ppb	EU: Reg (EU) 37/2010 US: 21 CFR 556.150
Bacitracin	< 100 ppb	< 500 ppb	< 200 ppb	Not Detected	EU: Reg (EU) 37/2010 US: 21 CFR 556.70

Conclusion

Safe, consistent, and sustainable collagen begins with responsible control of raw materials.



Safe, consistent, and sustainable collagen starts with meticulous control of raw materials. Leveraging the fully integrated ecosystem of Vinh Hoan and Vinh Wellness, every step, from farming, feed, and fish health management to post-harvest handling, processing, and final testing, follows strict scientific protocols and internationally recognized certifications.

Freshwater pangasius, farmed under ASC, BAP, and GlobalG.A.P.–certified practices, offers a cleaner and more predictable raw material compared to many wild-caught marine species. Controlled feed, low-stress farming, absence of marine biomagnification, and rapid post-harvest processing ensure low heavy-metal levels, high purity, and stable collagen structure.

Paired with our robust traceability and collagen-specific quality management (ISO 22000, BRCGS, GMP), Vinh Wellness delivers collagen and gelatin that meet the highest global standards for safety, purity, and functional performance.

Our commitment extends beyond quality, we produce collagen responsibly, transparently, and sustainably. Through ongoing investment in aquaculture science, processing innovation, and environmental stewardship, Vinh Wellness supports the global nutraceutical, food, pharmaceutical, and beauty industries with cleaner, safer, and more reliable collagen ingredients.

References

- Arporn Busamongkol and others, Evaluation of Toxic and Trace Metals in Thai Fish by INAA, Energy Procedia 56 (2014) 80-84, Thailand.
- ASC (2022), Why Pangasius fish isn't garbage, and more panga myths busted. <https://asc-aqua.org/blog/why-pangasius-isnt-a-garbage-fish-and-four-more-myths-busted/>
- Albertinka J. Murk and others, Perceived versus real toxicological safety of pangasius catfish: a review modifying market perspectives, Reviews in Aquaculture (2018) 10, 123-134, Netherlands.
- Nong Nghiep Va Moi Truong, 2025 , Vaccinating pangasius juveniles is key to improving export quality. <https://van.nongnghiepmoitruong.vn/vaccinating-pangasius-juveniles-is-key-to-improving-export-quality-d755776.html>



Regulatory compliance (EU, US FDA, etc.)

Compliance With EU Residue Regulations (Nitrofurans, Chlorate, Antibiotics)

Parameter	EU Limit	US Limit (FDA)	Japan Limit	VW Spec .	Standard (Reference)
Nitrofurans (AOZ, AMOZ, AHD, SEM)	Reference Point for Action (RPA): 0.5 µg/kg (ppb)	Zero Tolerance	Not Detected	< 0.5 ppb	EU: Reg (EU) 2019/1871 US: 21 CFR 530.41 JP: Food Sanitation Act
Chlorate	< 0.01 mg/kg (ppm)	No specific MRL (Follows GRAS)	0.01 ppm (Uniform Limit)	< 0.01 ppm	EU: Reg (EU) 2020/749 US: 40 CFR 180 (EPA) JP: Positive List System
Antibiotics Chloramphenicol	RPA: 0.15 µg/kg (ppb)	Zero Tolerance	Not Detected	Not Detected	EU: Reg (EU) 37/2010 US: 21 CFR 530.41 JP: Food Sanitation Act
Antibiotics Tetracyclines	< 100 µg/kg (ppb) (Standard MRL)	Variable Tolerances (See 21 CFR 556)	Variable (Positive List)	< 100 ppb	EU: Reg (EU) 37/2010 US: 21 CFR 556 JP: MHLW Notif. No. 370
Antibiotics Oxytetracycline	< 100 ppb	< 2000 ppb	< 200 ppb	< 100 ppb	EU: Reg (EU) 37/2010 US: 21 CFR 556.500 JP: MHLW Notif. No. 370
Antibiotics Chlortetracycline	< 100 ppb	< 2000 ppb	< 200 ppb	< 100 ppb	EU: Reg (EU) 37/2010 US: 21 CFR 556.150 JP: MHLW Notif. No. 370
Antibiotics Bacitracin	< 100 ppb	< 500 ppb	< 200 ppb	Not Detected	EU: Reg (EU) 37/2010 US: 21 CFR 556.70 JP: MHLW Notif. No. 370