



KENNEY & ROSS LIMITED

6493 SHORE ROAD, PORT SAXON, NOVA SCOTIA CANADA B0T 1W0

Phone (902) 637-2616

www.kenneyandross.com

Page 1 of 4

| | | | |
|----------------|-----------------|---------|------------|
| Product Name | FISH COLLAGEN | | |
| Material No. | HFC-15, HFC-350 | | |
| Product Ref. | HFC, FCP, LMW | CAS No. | 68410-45-7 |
| Effective Date | May 1, 2022 | EC No. | 270-082-2 |

PRODUCT DESCRIPTION:

Fish Collagen is manufactured from collagen which is the principal protein found in skin and bones. Kenney & Ross Ltd fish collagen is produced from the skins of deep-water fish such as wild caught cod, haddock and pollock, while animal collagen is typically extracted from bovine or porcine skin. Our fish skin source and manufacturing comply with CFIA, EU, EP, USP, JP, Kosher, and Halal standards.

Since the hydrolyzed (hydrolysed) collagen is manufactured from the skins of kosher fish, it is able to meet strict kosher standards. Hydrolyzed Fish Collagen is hydrolyzed with acid and food grade enzyme to further break down the molecular weight.

No genetically modified materials are used in Kenney & Ross Ltd. Collagen products. After filtering, purification, and concentration, the product is heat treated and dried. Collagen has a high protein content, is very water soluble and has no off odor or taste. It can be used as a protein additive in nutraceutical, cosmetic or food applications and will meet the purity requirements of the United States, European and Japanese Pharmacopoeia.

Typical Properties

| SPECIFICATION | |
|------------------------------|--------------------|
| Raw Material | Fish Skin |
| Product Classification | Collagen |
| Appearance | Powder |
| Color as Dry | White to off-white |
| Odor | No off Odour |
| Taste | Neutral |
| Identity | Corresponds |
| pH of 10% Solution | 5.0 - 6.5 |
| Viscosity of 10% Solution | 1.0 - 3.0 cSt |
| Loss on Drying | ≤7% |
| Protein | 91% min |
| Solubility / Water Insoluble | ≤0.005g/10g |
| Total Nitrogen | ≥15.0 g/100g |
| Hydroxyproline | ≥6% |
| Heavy Metal | ≤10 ppm |
| Arsenic | ≤0.3 ppm |
| Cadmium | ≤0.1 ppm |



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Page 2 of 4

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| SPECIFICATION | |
|-----------------------------|------------------|
| Chromium | ≤1.0 ppm |
| Copper | ≤5 ppm |
| Iron | ≤10 ppm |
| Lead | ≤0.3 ppm |
| Mercury | ≤0.1 ppm |
| Tin | ≤1.0 ppm |
| Zinc | ≤30 ppm |
| Sodium | ≤1400 ppm |
| Peroxide | ≤10 ppm |
| Sulphur Dioxide / Sulphite | ≤10 ppm |
| Conductivity | <1800 µs/cm |
| Density | 0.30 - 0.40 g/cc |
| Total Ash | ≤1.0% |
| Aerobic Colony Count | 1000 cfu/g max |
| Aerobic Mesophilic Count | 300 cfu/g max |
| Bacillus Cereus | <10 cfu/g |
| Clostridium perfringens | <10 cfu/g |
| Coliforms @30°C | <0.3 MPN/g |
| Coliforms @44.5°C | <3 MPN/g |
| E. coli | Absent/ 25g |
| Enterobacteriaceae | <10 cfu/g |
| P. aeruginosa | Absent /10g |
| Salmonella | Negative /25g |
| Shigella spp. | Negative /25g |
| S. aureus | Absent /10g |
| Anaerobic Sulphite Reducers | 10 cfu/g max |
| Yeast & Mold | 100 cfu/g max |
| Preservatives | No |
| Kosher Certification | OU |
| Halal | IFANCA |



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Page 3 of 4

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Average Amount of Amino Acids

| Amino Acid | Residues/1000 | Weight Percent |
|----------------|---------------|----------------|
| Aspartic Acid | 37 | 4.7 |
| Glutamic Acid | 68 | 9.7 |
| Hydroxyproline | 55 | 6.8 |
| Serine | 63 | 6.0 |
| Glycine | 347 | 21.8 |
| Histidine* | 15 | 2.3 |
| Arginine | 62 | 10.6 |
| Threonine* | 33 | 3.7 |
| Alanine | 109 | 8.5 |
| Proline | 98 | 10.5 |
| Tyrosine | 3 | 0.5 |
| Valine* | 16 | 1.7 |
| Methionine* | 12 | 1.7 |
| Cysteine | ---- | ---- |
| Isoleucine* | 10 | 1.2 |
| Leucine* | 18 | 2.2 |
| Hydroxylysine | 9 | 1.4 |
| Phenylalanine* | 13 | 2.1 |
| Tryptophan* | ---- | ---- |
| Lysine* | 32 | 4.5 |
| TOTAL | 1000 | 99.9 |

***Essential amino acids. These are readily available in meat, poultry, eggs, fish, milk, and cheese, which are all part of a balanced diet.**



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Nutritional Information

| Typical Nutritional Information per 100 Grams | |
|---|--------|
| Calories | 470 |
| Fat | 0.0 g |
| Saturated | 0.0 g |
| Monounsaturated | 0.0 g |
| Polyunsaturated | 0.0 g |
| Trans Fat | 0.0 g |
| Cholesterol | 0.0 g |
| Sodium | 0.1 g |
| Total Carbohydrates | 0.0 g |
| Total Dietary Fiber | 0.0 g |
| Sugars | 0.0 g |
| Protein (Min) | 93.5% |
| Vitamin A | 0.0 |
| Vitamin C | 0.0 |
| Calcium | 0.5 mg |
| Potassium | 0.5 mg |
| Iron | 0.4 mg |
| Ash | 0.5% |
| Moisture (Max) | 6.0% |

Storage Conditions:

Ambient Temperature and Humidity

Shelf Life:

5 years

Package Sizes:

15 Kg Boxes
360 Kg Bulk Bags