Eat Well, Live Well. AJINOMOTO HEALTH & NUTRITION, NORTH AMERICA, INC.



4105 Poole Road, Raleigh, NC 27610
Tel: 919-233-2323 Email: KNRSALES@ajiusa.com

High Molecular Weight (HMW) Fish Gelatin Food/Pharmaceutical Grade

HMW Fish Gelatin is manufactured by the hydrolysis of collagen which is a principal protein found in skin and bones. Animal gelatin is typically extracted from bovine or porcine skin while HMW Fish Gelatin is produced from the skin of deep water fish such as cod, haddock and pollock. This allows it to have many of the same characteristics of animal gelatin. Since the gelatin is manufactured only from the skins of food grade kosher fish, it is able to meet strict kosher standards.

HMW Fish Gelatin is a Type A gelatin and is supplied as a dry granular product. This gelatin is extracted differently than the standard Fish Gelatin and is lighter in color with a higher average molecular weight. The higher molecular weight will provide a higher viscosity and a tougher film than our standard gelatin. Neither product has bloom strength as the gel point is lower than animal gelatin. This makes it suitable for frozen or refrigerated products or for use as a dry coating. The lower gel point allows Fish Gelatin to dissolve faster and easier then animal gelatin, so it can be readily added to products that are to be chilled.

TYPICAL PROPERTIES OF HMW FISH GELATIN

Appearance	Granular	Chromium	<10 ppm
Odor as Supplied	None	Lead	<1.5 ppm
Color in Solution	Pale Yellow - Clear	Sulfur Dioxide	<50 ppm
pH of 10% Solution	4.0-7.0	Hydrogen Peroxide	<0 ppm
Solids	85% min.	Aerobic Bacterial Count	<1000/g
Weight Loss on Drying	15% max.	Enterobacteria	Test neg/g
Visc. of 10% Solution @ 30°C	25-35 cSt	Salmonella	Test neg/25g
Bloom	0 g	Escherichia Coli	Test neg/25g
Total Ash	2.0% max.	Yeast and Mold Count	<100/g
Heavy Metals	<10 ppm	Preservatives	No
Arsenic	< 0.8 ppm	Kosher Certification	OU

Revision date: February 10, 2022

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CERTIFICATE OF ANALYSIS

FISH GELATIN, OU KOSHER, DRIED HIGH MOLECULAR WEIGHT **MEETS EU. EP & JP STANDARDS** SAMPLE COA FOR SPEC PURPOSES

SPECIFICATIONS PRODUCT HMWD

APPEARANCE GRANULATE

1-13 COLOR **ODOR** NONE

IDENTITY CORRESPONDS

pH OF 10% SOLUTION 5.0 - 7.0VISC OF 10% SOLUTION @ 30C 25.0 - 35.0 CS LOSS ON DRYING MAX. 13.5% **PROTEIN AS SHOWN HEAVY METALS** <20 ppm **ARSENIC** <0.8 ppm **CADMIUM** <0.5 ppm CHROMIUM <10 ppm <30 ppm **COPPER** IRON <10 ppm **LEAD** <1.0 ppm **MERCURY** <0.15 ppm ZINC <50 ppm **HYDROGEN PEROXIDES** <10 ppm SULFUR DIOXIDE <50 ppm **TOTAL ASH** MAX 2.0% AEROBIC BACTERIA COUNT MAX. 1000/g YEAST & MOLD COUNT MAX. 100/g COLIFORMS @ 30 oC <3 MPN/g COLIFORMS @ 44.5 oC <3 MPN/g

CLOSTRIDIUM PERFRINGENS <10 CFU/g ENTEROBACTERIACEAE <10 CFU/g ESCHERICHIA COLI NEGATIVE IN 25 g SALMONELLA **NEGATIVE IN 25 g** PSEUDOMONAS A. NEGATIVE IN 10 g STAPHYLOCOCCUS A. NEGATIVE IN 10 g

ANAEROBIC SULPHITE-REDUCERS MAX 10/g

MANUFACTURE DATE:

EXPIRY DATE:

Authorized signature and title:

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High Molecular Weight Gelatin manufactured by Kenney & Ross, Limited is primarily extracted from the skin of kosher, deep sea cod caught in the North Atlantic Ocean and surrounding seas near the Arctic Ocean. Very small amounts of pollock and haddock which are related species may also be present. The cod, pollock and haddock are generically known as "whitefish".

Shown below are pictures and descriptions of the fish to provide our customers with details about our raw materials.

Atlantic Cod

Scientific name: Gadus morhua

Japanese name: tara



The cod is streamlined and slender, with a large head and a large mouth, situated in the lower half of the head Its color varies depending on age and environment Most commonly though it sports a yellow-grey color on its back and upper flanks sprinkled with small dark spots The tone grows lighter closing in on the abdominal area which, in turn, is completely white The cod is a demersal fish, thriving in various depths.

Atlantic Pollock

Scientific name: Pollachius virens

Japanese name: porakku



The Atlantic pollock is related to the cod and haddock. Often known commercially as Boston bluefish, it is also called merlan, colin, saithe, and coalfish (particularly in the United Kingdom). It differs in appearance from others in the cod family by having a pointed snout and a projecting lower jaw, a more rounded body, and a forked rather than a square tail. Fish range from 50 to 90 centimeters long and weigh from 1 to 7 kilograms. Harvested from Labrador to Cape Cod, pollock is caught by mid-water trawls, otter trawls, longlines and handlines.

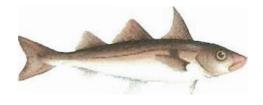
Atlantic pollock is a lean fish with somewhat darker flesh than cod. It is sold fresh (whole, steaks, fillets); and frozen (whole, steaks, fillets, IQF and blocks). Pollock is frequently salted and cured for export.

Haddock

Scientific name: Melanogrammus

aealefinus

Japanese name: hadoku



Long a popular species on both sides of the Atlantic, this member of the cod family ranges in North American waters from the Strait of Belle Isle to Cape Cod. Haddock generally resemble cod, although smaller on average, being from 38 to 63 centimeters in length, with an average weight of .9 to 1.8 kilograms. The head and back are a dark purple-grey with a black lateral line, and the underside is silver-grey with a slight pink cast. It is harvested inshore, near shore, and offshore by otter trawls, traps, longlines and gillnets. Haddock stocks have suffered with other groundfish stocks in recent years and availability is less than it has been in the past. Highest concentrations occur on Georges Bank.

The raw meat is white and cooks up even whiter. Flesh is firm and resilient. Haddock is often sold skin-on so buyers can use the distinguishing black mark (the "devil's thumbprint" or "St. Peter's mark") to differentiate it from cod. Haddock has a delicate flake, finer than cod, and a slightly sweet taste. Cold-smoked haddock (the famous finnan haddie invented by the Scots) is one of the real treats of the sea.