

Amino-glyco Kviar

INCI name:

Water, Glycerin, Hydrolyzed Roe, Glycosaminoglycans, Glycogen.

Description:

Caviar Roe have extraordinary energetic resources to sustain the development and nutrition of the new embryo.

Based on this richness in nutritive and essential elements we have developed a new basic active ingredient for the cutaneous cell regeneration and skin treatment, combining efficacy, luxury and sophistication together.

AMINO-GLYCO KVIAR, is a natural marine active ingredient, manufactured from fish roe (**Caviar** and *Cyclopterus lumpus*).

It has been enriched with Glycosaminoglycans (**Chondritin Sulfate and Hyaluronic Acid**) and **Glycogen**, both from marine origin, making this unique marine compound, a splendorous care for the skin.

Extraction and manufacturing of caviar



The sturgeon is a fish which reproduction and birth is done in rivers. It needs deep and rapid waters with high oxygen levels to spawn, departing after birth to the sea.

The number of eggs spawned by each female depends on its age and size, but it is around 2 million eggs. The sturgeon spawns only every two years, and for this reason the eggs are so scarce.

To obtain a single gram of caviar 90 eggs would be needed. So each female sturgeon will give approximately 22 kg of caviar, only every 2 years. Caviar is the second high-priced product in the world only after saffron.

Sturgeons are one of the oldest species of our planet, as they exist since over 200 million years. In nowadays it is in high risk of extinction due to the illegal catches in Iran and Russia. CITES (Convention of International Trade in Endangered Species) has prohibited the exports of wild caviar, permitting only the one coming from fish hatcheries.

Legal fishing of sturgeons is still done in the traditional way. Each fish is weighted and marked so its eggs can be identified and traced. The collected eggs are cleaned and undergo through a selection process. Finally, the eggs are salted and manually packed, normally under semi-vacuum.

Caviar is a rich energy source. It provides around 250 calories each 100 g. Its protein content is elevated: almost 25 g each 100 g. It has extraordinary quantities of vitamins: A and D. It also contains Minerals and Amino-Acids.

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Caviar: Components and functions:

Protein and Amino-Acid content (mg/100 g) of caviar

Proteins	24600
Threonine	1263
Leucine	2133
Lysine	1834
Serine	1897
Arginine	1590
Alanine	1653
Glutamic acid	3633
Aspartic acid	2385

Proteins are chains made from amino-acids. Some have structural roles being part of cells and tissues. Others have functional activities, accelerating chemical reactions, as energetic reserves substances or as nutritive compounds.

Threonine: It participates at the collagen and elastin formation processes.

Leucine: It helps at the wounds healing process.

Lysine: Collaborates at cells repairs and at the skin's fatty acids metabolism. It also participates at the collagen synthesis.

Arginine: It potentiates the collagen synthesis, thus the cellular restoration.

Alanine: It is used as energy source at stress situations.

Serine: Natural moisturizing agent. It is present at the skin metabolism process, promoting cell renovation.

Glutamic Acid: Important metabolic intermediate. It serves as metabolic fuel for other functional roles in the body

Aspartic Acid: Increases the absorption and use of some important minerals for the skin like calcium, magnesium, zinc and potassium.

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Mineral content (mg/100g) in Caviar

Calcium	275
Magnesium	300
Phosphorus	181
Sodium	1500
Selenium	65.5

Calcium: reinforces the cell membranes and activates certain enzymes vital for the skin's metabolism

Magnesium: It is a basic mineral for human nutrition. It has metabolic functions a key role at the production and transport of energy. This mineral participates at the protein synthesis and at the activation of certain enzymes. It is indispensable for the correct assimilation of calcium and vitamin C. It is also a good moisturizer.

Phosphorus: For every form of life, phosphates play an essential role in all energy-transfer processes such as metabolism, photosynthesis, nerve function, and muscle action. The nucleic acids which among other things make up the hereditary material (the chromosomes) are phosphates, as are a number of coenzymes

Sodium: Its key role is to allow the penetration of nutritive substances through the cell membranes and to allow the way out of the toxic ones.

Selenium: Along with vitamin E, it has an anti-oxidant activity. It protects the cellular membranes by neutralizing the oxidative free radical actions, delaying the tissues aging process

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Vitamin content (mcg/100g) in Caviar

Vitamin A	1870
Vitamin D	232
Vitamin E	7
Vitamin B12	20

Vitamin A: Our body does not produce vitamin A. We have to get it through food ingestion or topical applications. Vitamin A increases the enzymatic activity at the skin and stimulates the cellular division, thus the skin regeneration, improving its condition. It improves the elasticity and can regenerate premature aged skins. It also helps to regulate the keratinisation process and the skins renewal. At last it contributes to collagen production, so the skin will be firmer.

Vitamin D: Unlike other vitamins, it is not generally found in food. Between 90 to 95 percent of all our vitamin D comes from casual, everyday exposure to sunlight. The vitamin is made in the skin by a complex synthesis process that uses the ultraviolet B (UVB) portion of sunlight. Vitamin D helps the calcium absorption in our body, regulates the cutaneous immune-system and the epithelial proliferation.

Vitamin E: The anti-wrinkle effect of the vitamin E is due to its strong anti-oxidant action. Free Radicals are one of the main responsible of cell destruction and vitamin E can help to delay its damaging effects, preventing premature aging and wrinkle formation. It also has moisturizing activities and help preventing the damage of sun radiations.

Vitamin B12: Also known as cobalamin, it acts as coenzyme for normal DNA synthesis. It is essential for a variety of synthetic processes in the cells. The deficiency of this vitamin is particularly detrimental to neurons and rapidly dividing cells, including skin cells.

Caviar is also rich in **Omega 3** acid (around 7%), important poly-unsaturated fatty acid for the strength of the skin's barrier function

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Effects in Cosmetic Products:

AMINO-GLYCO KVIAR is a natural, marine, luxurious active ingredient to be used at cosmetic preparations with 4 basic objectives:

- Regeneration
- Skin Repair
- Nutrition
- Moisturization

Its proteins and nutritive elements will be used by the skin cells at its restoring processes. It is then most suitable for repairing night treatments, when the skin restoration developments are at the highest levels.

Thanks to its important content in minerals and oligo-elements, we will be supplying precious ingredients vital at the nutritious and regeneration skin's procedures acting as:

- Biocatalyzer and coenzymes of cellular biochemical reactions
- Assisting at cyto-energetic cell metabolisms

The high content in vitamins, especially of vitamin A which is reconstructed into Retinoic Acid, have key roles at the skin renewal and fight against wrinkles. These vitamins will help to maintain healthy skin cells, improving its metabolic and functional conditions and avoiding and delaying the damaging actions of the Free Radicals.

The amino-acids, which are homologous to those of epidermis and dermis, are similar to the constituents of the skin's hydrating substances. They are essential for the reconstruction of the Natural Moisturizing Factor. With this active ingredient we will help increasing the moisturization of the skin by applying elements that will reinforce the composition of the NMF, responsible for holding the water at the epidermal layer.

It can also be considered as an anti-stress active ingredient as will supply bio-elements needed for the skin's defenses and repair. It contains a powerful complex of polysaccharides combining the actions of **Glycogen** and Glycosaminoglycans (**Chondritin Sulfate** and **Hyaluronic Acid**), all from marine origin.

The loss of glycosaminoglycans from the skin weakens the supportive inter-cellular matrix and results in loose, flaccid and generally not firm skin. Glycosaminoglycans, especially Hyaluronic Acid, are also strong moisturizers for the superficial layers of the skin.

Glycogen is the energy source for the skin cells. Glycogen is present at all the defense and restoration processes performed by the skin cells, as it is its energy supply. It also improves the oxygen consumption.

With this compound the skin is supplied with all nutritive elements needed, plus the energy necessary to process them. The regeneration processes at tired and premature aged skins is now more intense and effective. The skin has with AMINO-GLYCO KVIAR a strong ally to fight against its aggressions; helping to restore all natural elements needed for a luminous, soother and soften skin.

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AMINO-GLYCO KVIAR is most indicated for the following cosmetic treatments:

- Rough and dried skins, lacking hydro-retaining substances
- Stress and uncomfortable skins
- Aged and premature aged skins. Treatments for face, décolleté and neck areas
- Protective products against environmental aggressions.
- Repairing and nutritive night formulations
- Formulations for aged skins lacking elasticity

Dosage – Solubility – Processing

A- DOSAGE:

Recommended dosage is from 1 to 2%. It can be used at higher concentrations at, for example, shock treatments in ampoules.

B- SOLUBILITY:

Hydro-soluble. Insoluble in fats and oils

C- PROCESSING:

AMINO-GLYCO KVIAR is compatible with most of the raw materials normally used in cosmetics, with a pH range of 5 to 8. Nevertheless, it is the duty of the formulator to make sure of the stability of the formulae with the necessary tests.

It would be preferably incorporated into cosmetic preparations during the finishing process, at the cooling phase at around 30 °C. Maintain agitation until its complete solution.

Analytical Data

- Aspect: Limpid liquid, of pale amber color and characteristic odor.
- pH: 6,00 – 7,00
- Dry extract: 28,00 – 38,00%
- Refraction index (at 20 °C): 1,380 – 1,390
- Hexosamines (hydrolyzed at 2%): 0,50 – 0,90%

PRESERVATIVES: Approved in CE, USA and JAPAN

MICROBIOLOGY: Maximum 50 CFU (not pathogenic)

TOLERANCE: Excellent.

STORAGE: Store at room temperature, dry and away from light.

If original container is opened, to avoid secondary microbiological contamination handle with special care.

SHELF LIFE: 24 months