

PENTAPHARM

PEPHA[®]-TIGHT

PEPHA[®]-TIGHT is a unique algae based skin tightener: it tightens the skin immediately and at the same time provides a long term effect by strengthening the skin's connective tissue.

PRODUCT DESCRIPTION

PEPHA[®]-TIGHT is a highly purified biotechnologically produced extract from the microalga *Nannochloropsis oculata* that has been combined with a well balanced fraction of polysaccharides. A special fermentation process utilizing photo-bioreactors maximize the optimal growth conditions to ensure the high quality and pureness of the algae extract. During millions of years of evolution *Nannochloropsis oculata* has evolved a myriad of ingredients and protective systems that are very interesting for use in skin care. The main constituents are polysaccharides, amino acids and vitamins, especially vitamin C, an effective antioxidant and B₁₂, responsible for the formation of cells.

PEPHA[®]-TIGHT is a two-in-one skin tightener: it provides a perceptible instant tightening effect on the skin and acts also on the long term basis, protecting the skin cells from oxidative stress and stimulating the formation of collagen-I.

BACKGROUND

Sagging skin often is a result of oxidative stress. Stress factors can initiate the premature signs of ageing, leading to a degradation of the connective tissue. The amount intact collagen fibres are subsequently reduced as their physical state worsens.

It is possible to combat these signs of skin ageing by the use of suitable skin care products. It however takes time to actually visualize the effects. Most, if not all consumers unfortunately are not patient: they expect to see tightening effects on the skin immediately after the initial application.

PEPHA[®]-TIGHT can meet this consumer demand by forming a thin film on the skin exerting an instant perceptible tightening effect.

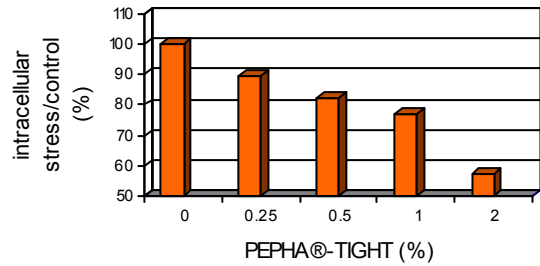
At the same time it has a long term firming effect when applied regularly, as part of a treatment regimen: PEPHA[®]-TIGHT acts as a protection shield against oxidative stress and stimulates the formation of collagen-I, which is an essential part of the skin's connective tissue.



EFFICACY

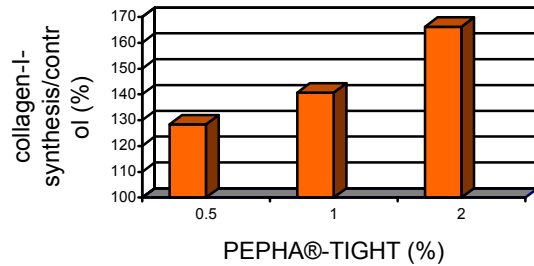
PROTECTION AGAINST OXIDATIVE STRESS

The graph demonstrates that PEPHA[®]-TIGHT reduces the intracellular stress of human fibroblasts stressed with Hydrogen Peroxide.



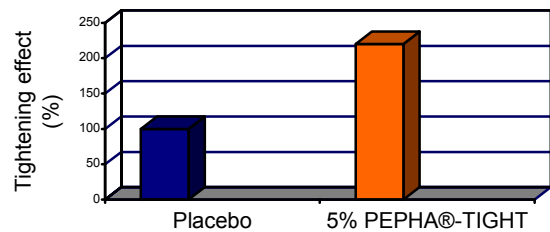
STIMULATION OF COLLAGEN-I SYNTHESIS

Human fibroblasts were incubated with PEPHA[®]-TIGHT. As shown in the figure, PEPHA[®]-TIGHT stimulates the synthesis of collagen-I and supports the enhancement of the connective tissue.

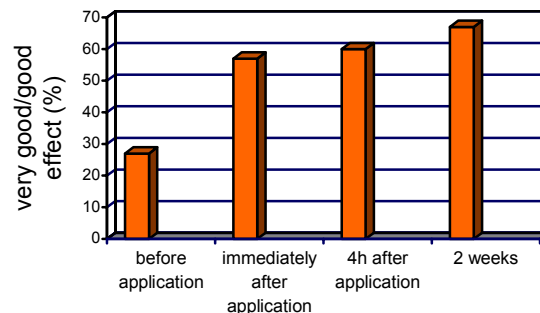


IN-VIVO TIGHTENING EFFECT

20 volunteers applied a gel containing 5% PEPHA[®]-TIGHT and assessed the tightening effect compared to the placebo gel without PEPHA[®]-TIGHT. PEPHA[®]-TIGHT has a tightening effect 120% better than the placebo.



In another study 30 volunteers applied a gel containing 3% PEPHA[®]-TIGHT over a period of 2 weeks. About 60% stated to have a good/very good tightening effect after the initial application. Almost 70% quoted to have a good/very good tightening effect after 2 weeks of application.



ADDITIONAL INFORMATION

In an additional *in-vitro* study it could be demonstrated that PEPHA[®]-TIGHT increases drastically the cell proliferation of human fibroblasts.



CONCLUSION

Several studies show that PEPHA[®]-TIGHT has a very good instant and perceptible tightening effect on the skin and at the same time protects and stimulates the collagen fibres in the skin's connective tissue.

PEPHA[®]-TIGHT is particularly appropriate for lifting products, décolleté treatments and all kinds of tightening products. Possible application forms are gels, lotions, serums and masks.

TECHNICAL INFORMATION

PRODUCT SPECIFICATIONS

| | | |
|-------------------------|---|--|
| Appearance | : | Yellow to amber, opalescent to turbid, highly viscous liquid |
| pH | : | 4.50 – 5.50 |
| Relative density (20°C) | : | 1.050 – 1.150 |
| Dry residue (105°C) | : | 19.0 – 23.0 % (m/m) |
| Preservatives | : | |
| 2-Phenoxyethanol | : | 0.90 – 1.00 % |
| Sodium Benzoate | : | 0.25 – 0.40 % |
| Potassium Sorbate | : | 0.10 – 0.20 % |
| Microbial Count | : | < 100 CFU/g |
| Specified pathogens | : | Absent, not detectable |

PRESERVATION AND MICROBIOLOGY

PEPHA[®]-TIGHT is preserved using sodium benzoate, potassium sorbate and phenoxyethanol. PEPHA[®]-TIGHT is free of specified pathogens. The amount of non-pathogenic microorganisms with less than 100 CFU per ml of PEPHA[®]-TIGHT meets the CTFA microbiology guidelines. PEPHA[®]-TIGHT fulfils the criteria of the repetitive germ loading test described by Shyam B. Singh-Verma (Parfümerie und Kosmetik 68(7), 414-421, 1987).

SAFETY AND ECOLOGY

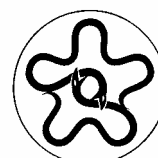
Standard and well-defined safety testing has been performed with PEPHA[®]-TIGHT which has proved the product to be safe for cosmetic use. The data available do not indicate any environmental risks. The manufacturing process is designed to meet the criteria for the assessment of safety, health and protection of people and of environment set out in the *Responsible Care Program*.

PROCESSING AND DOSAGE

PEPHA[®]-TIGHT is incorporated into the formulation at temperatures lower than 50°C. Possible precipitates are reversible by means of shaking or stirring. PEPHA[®]-TIGHT is stable in the pH-range of 5 to 7. PEPHA[®]-TIGHT is compatible with ethanol in concentrations up to 10%. For skin preparations we recommend the addition of 1 to 5% PEPHA[®]-TIGHT. Basic guide formulations are available upon request.

STORAGE AND SHELF LIFE

PEPHA[®]-TIGHT should be stored in the original sealed containers protected from light in a clean place at a temperature between 10°C and 25°C. In order to avoid secondary microbial contamination, following opening, containers should be handled with special care. If stored under the recommended conditions PEPHA[®]-TIGHT remains stable for 1 year.



GENERAL PRODUCT INFORMATION

| | | |
|--------------------|---|--|
| Trade name | : | PEPHA [®] -TIGHT |
| Produkt Code | : | 800356 |
| INCI name (CTFA) | : | Algae Extract Pullulan |
| EU-labelling Name | : | Algae (Pullulan not listed) |
| Chemical name | : | Aqueous solution of an extract of the microalga Nannochloropsis oculata and a blend of polysaccharides |
| CAS-No. | : | 9218-82-02; 9057-02-7 |
| EINECS-No. | : | 295-780-4; 232-945-1 |
| NICNAS | : | 68917-51-1 (Pullulan not listed) |
| Customs tariff No. | : | 3824.9019 |
| Shelf life | : | 1 year |

COMPOSITION

| A) Ingredient(s) | INCI Name # | Amount * |
|----------------------------------|---------------------------|----------|
| As listed in the CTFA Dictionary | Algae Extract Pullulan | E C |

| B) Additives | INCI Name # | Amount * |
|--|---|-------------|
| Solvents | Water | A |
| Preservatives (Phenoxyethanol, Rokonsal BS) | Phenoxyethanol Benzoic Acid Sorbic Acid | F F F |
| (buffer, antioxidants, dyes) | - | |

CTFA Dictionary

* FDA-Code (A = > 50%, B = 25-50%, C = 10-25%, D = 5-10%, E = 1-5%, F = 0.1-1%, G = < 0.1%)

REMARK

Although these data and information have been prepared with the utmost possible care, we reserve the right to make changes due to product improvement and other considerations.

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