

Chlorophyllin

Description

Chlorophyllin is natural, environmentally friendly, and sustainable bioactive extracted from Ginkgo biloba leaves. Traditionally, nutrients, like flavone glycosides and terpenoids, are extracted from Ginkgo biloba leaves. So far, the left materials have been regarded as waste and disposed uselessly. The application of new techniques enables nowadays the effective extraction of chlorophyll from these remains and ultimately the production of a valuable chlorophyllin copper complex named Chlorophyllin. Chlorophyll itself is a natural bioactive substances, but limited in its application due to its instability in heat, light, acidic conditions etc.. It easily decomposes and is insoluble in water. Therefore, the structure of natural chlorophyll is modified to a stable metalloporphyrin structure to create Chlorophyllin which shows a high stability to heat and light as well as a strong colouring power. Because of its stability and the absence of toxic side effects, it is widely used as food additive, in cosmetics, colourants, drugs, photoelectric conversion materials etc.

Chlorophyllin is a Chlorophyllin-Copper Complex, a kind of metalloporphyrin. It is a natural pigment (CI 75810) approved by FDA and EU, with bright green color. In addition, it also has the activity of scavenging free radicals, it acts as an antioxidant, reduces inflammations and enhances cell repair. It inhibits harmful oral bacteria and acts deodorizing. The cosmetic industry mainly uses this ingredient as a colourant and deodorant agent to add a green dye to dentifrices, as well as to various makeup and skin care formulations. The topical application of this ingredient also helps eliminate odours on the skin. In addition, Chlorophyllin is also known to help expedite the healing of wounds by slowing the growth of certain anaerobic bacteria on the skin. You can find this ingredient in a variety of personal care products such as bath oil/salts, soap, shampoo, cleanser, moisturizer, antiperspirant/deodorant, facial masks, body oil, foot odor treatment, toner/astringent, and exfoliant/scrub.

Efficacy

- acts as an antioxidant
- represents a natural colouring agent
- protects the skin from environmental damages
- reduces inflammations
- acts as a deodorant
- accelerates wound healing
- acts anti-microbial
- prevents bleeding issues (unique active for toothpaste)

Appearance

dark green granule

INCI

Chlorophyllin-Copper Complex or CI 75810

Registration

CAS-No.....11006-34-1

EC-No.....234-242-5

Raw material approved by ECOCERT GREENLIFE, conform to the COSMOS Standard.



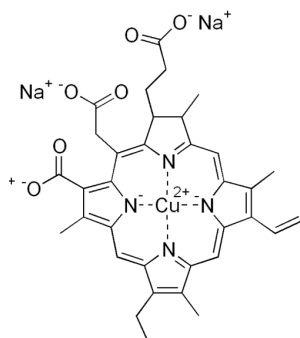
Chlorophyllin

Preservatives / Stabilizers

none

Characteristics

Chlorophyllin content.....	100 %
pH-value (1 % water solution).....	9.5 - 11.0
loss on drying.....	<= 5.0 %
total copper content.....	<= 8.0 %
free copper.....	<= 0.025 %
absorbance ratio.....	3.2 - 4.0 %



<https://de.wikipedia.org>

molecular formula.....	C ₃₄ H ₃₁ CuN ₄ Na ₃ O ₆
molecular weight.....	724.19 g/mol ⁻¹
synonym.....	natural green 3, E 140, E 141

Application

daily cosmetic products
creams and lotions
face masks
gels and ampoules
deodorants
soaps
facial cleaners
oral care (tooth paste and mouth wash)
nutrients

Application concentration

skin care formulations.....	0.0001 - 10 %
oral care (mouth wash).....	0.0014 %

Incorporation

Chlorophyllin is soluble in water. It is soluble in ethanol at 40 °C when water is added (1/1 ratio). Soluble in glycerin / water mixture and phenethyl alcohol at 60 °C. Insoluble in oil.

Chlorophyllin is stable to light and heat, but it can precipitate in hard water, acid or in present of calcium ions. We recommend a pH 7 - 12. In acidic conditions colour changes occur (green to brown).

Toxicology

non hazardous in normal use concentration
no cytotoxicity observed in concentrations
< 312.5 µg/ml

Storage & Shelf life

Chlorophyllin should be stored in tightly closed containers in a dark, dry and well ventilated place at temperatures between 10 - 25 °C.

In closed original containers the shelf life is 24 months.