

## Green Tea Extract (EGCG) 90

### Description

The basis of the classical Chinese green tea are camellia sinensis leaves and buds. In contrast to black tea or oolong teas, these have not undergone the same withering and oxidation process. Green tea possesses a broad range of polyphenols, including epigallocatechin gallate (EGCG), epicatechin gallate (ECG), epicatechins (EC) and flavanols. EGCG is a type of catechin, the ester of epigallocatechin and gallic acid. It represents with approximately 9-13 % in net weight the most abundant catechin in tea and is also the main active component responsible for the benefits of green tea. By virtue of its peculiar stereochemical structure, EGCG possesses strong antioxidative activities and has been examined as a potent agent to prevent cancer, make cancer treatments less harmful and inhibit cardiovascular diseases. Due to its impact as a potent radical scaffolder, green tea extracts in cosmetics have been shown to sooth skin damages like sunburns very effectively. Inflammations are reduced and even positive effects on decreased skin aging could be observed.

Green Tea Extract (EGCG) 90 is a physically purified natural green tea leaf extract with an EGCG content higher than 90 %. It is also suitable for oral applications and as food supplement.

### Efficacy

- acts as an antioxidant
- reduces inflammations
- soothes sunburns
- helps to prevent wrinkles
- helps to prevent photo aging
- helps to maintain skin elasticity based on the collagen network
- stimulates proliferation and cell differentiation

### Appearance

fine white powder

### INCI

Epigallocatechin Gallate

### Registration

CAS-No.....989-51-5

EC-No.....479-560-7

### Preservatives / Stabilizers

none

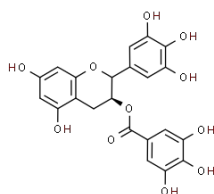


Nature needs no cosmetics,  
but cosmetics need nature

## Green Tea Extract (EGCG) 90

### Characteristics

EGCG content (HPLC).....>= 90.00 %  
 Caffeine content (HPLC).....<= 0.10 %  
 loss on drying.....<= 5.0 %



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molecular formula.....C<sub>22</sub>H<sub>18</sub>O<sub>11</sub>  
 molecular weight.....458,36 g·mol<sup>-1</sup>

### Application

daily cosmetic products  
 creams and lotions  
 face masks  
 gels and ampoules  
 oral hygiene products  
 food supplement

### Application concentration

skin care formulations.....0.05 - 0.5 %  
 food applications.....< 800 mg

### Incorporation

Green Tea Extract (EGCG) 90 is fairly soluble in water, glycerin, propylene glycol and ethanol. It should be blended into the water phase below 30°C at the end of the formulation process. High temperatures will lead to degradation of Green Tea Extract (EGCG) 90 and discoloration of the formulation beige/brown over time.

Therefore, the use of stabilizers and scavengers and/or antioxidants is highly recommended (e.g. 0.1 - 1 % EDTA or 0.005 % superoxide dismutase or 0.1 % hydrolyzed plant protein).

By adding 0.2 - 0.5 % citric acid the stability of Green Tea Extract (EGCG) 90 can be further optimized in formulations.

A pH of < 6 is recommended to avoid oxidation. In presence of oxygen degradation occurs, therefore we advise formulating under vacuum.

### Toxicology

non hazardous in normal use concentration  
 pure raw material can cause

- is harmful if swallowed
- causes serious eye irritations
- may cause allergic skin reaction
- is toxic to aquatic life with long lasting effects

### Storage & Shelf life

Green Tea Extract (EGCG) 90 should be stored in sealed containers at dry, light protected and cool place. Iron container should be avoided as this substance will react with iron ion.

In closed original containers the shelf life is 24