



## Actiphyte<sup>®</sup> of Japanese Green Tea Conc. BG50P

CTFA/INCI NAME: Camellia Oleifera Leaf Extract

LATIN NAMES: *Camellia Oleifera*

JCIC NAME AND NUMBER: Green Tea Extract (520763)

CAS NUMBER: N/A EINECS NUMBER: N/A

### COSMETIC USES:

Tea has long been revered in many cultures as a remedy for a variety of dysfunctions. Discovered in China almost 5000 years ago, its utilization for refreshment and as a beneficial health nutrient quickly spread around the world. So entrenched was tea in the culture of the American forefathers that when the English taxed it, the American revolutionaries considered it to be a tax on life itself, resulting in the infamous “Boston Tea Party.”

More recently, scientists have extensively analyzed tea to determine which ingredients are the most beneficial.

The two major pharmacologically active groups of chemicals in Japanese Green Tea are the xanthines and the polyphenols (also known as catechins).

### Polyphenols

Tea processed by the method considered being “Japanese Green Tea” yields the most useful extract, since in the process of manufacturing black tea, most of the polyphenols are oxidized to form dark colored ingredients. They then are not available to exhibit their antioxidant properties.

The polyphenols abundant in Japanese Green Tea are Epigallocatechin Gallate (EGCg), Epigallocatechin (EGC), Epicatechin Gallate (ECg), and Epicatechin (EC). The galliccatechins are known to prevent hydrolysis of other biological compounds such as Diosgenin, found in Mexican Yams. Its inclusion in a formula will therefore stabilize other extracts.

EGCg has been found to be a powerful antioxidant, more than 20 times the strength of Vitamin E. It is considered to play a vital role in protecting the cell from free radical damage initiated by environmental factors such as exposure to UV light.

Polyphenols form loose bonds with the xanthines (caffeine, theobromine, theophylline) in tea, potentiating their anti-inflammatory and antiirritancy effects. This may be one reason why using these ingredients in their natural state appear to be more effective than using synthetic materials.

### Xanthines

The major xanthines in Japanese Green Tea are Caffeine, Theobromine, and Theophylline. These materials have been associated with a multitude of beneficial healthful properties, including suppression of inflammation and irritation, and reduction of cellulite.

One effective use of its antiirritancy properties is in combination with alpha hydroxy acids

“fruit acids” such as glycolic acid or lactic acid, or the beta hydroxy acid salicylic *acid*. These acids are used up to 10% in skin renewal preparations and can be somewhat irritating. The addition of Japanese Green Tea extract at 1-3% can reduce the irritation caused by the exfoliating acids without any loss in efficacy of the skin treatment product.

Another use of its anti-inflammatory properties is in combination with an established sunscreen to increase the SPF of a sunscreen product. The vasodilator effect of the xanthines, along with the free radical scavenging potential of the polyphenols provides a perfect combination of active materials to potentiate the effectiveness of a sunscreen.

The xanthines, particularly theophylline, have recently been associated with the reduction of the appearance of cellulite. Using Japanese Green Tea extract is a safe, gentle way to provide theophylline to the skin.

USAGE LEVEL: Recommended 1 - 5% in skin and hair care products

SPECIFICATIONS:	Appearance:	Light yellow liquid
	Caffeine:	2.5% - 4.5%
	Microbial Plate Count:	Less than 100 organisms per gram
	Odor:	Characteristic
	Preservative: Phenonip	1.0%
	pH:	4.0 – 6.5 at 25° C
	Refractive Index:	1.3710 – 1.4075 at 25° C
	Solubility:	Soluble in any proportion in water
	Specific Gravity:	1.00 – 1.04 at 25° C
	Theobromine:	0.02% - 0.06%
	Theophylline:	0.20% - 0.50%

EXTERNAL USE ONLY-NOT FOR DRUG USE

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