

Glycospheres-GTs

The benefits of green tea delivered to the skin



Green Tea Extract

Most of the medicinal properties attributed to green tea come from flavonoids. Numerous studies have shown these polyphenols, mostly galliccatechin, epigallocatechin, epicatechin and epigallocatechin gallate in green tea, to have protective effects against free radicals, cardiovascular damage and even cancers and infections. Considering their well-documented antioxidant and anti-inflammatory activities, green tea polyphenols are likely to slow down the development of some signs of aging. They may also synergistically enhance sun damage protection by quenching free radicals and reducing inflammation. Green tea extracts are also composed of caffeine, minerals and amino acids.

Like most antioxidants, green tea extracts can be oxidized and react to some constituents of cosmetic formulas.

Glycospheres-GTS

Glycospheres are submicron delivery systems. They can entrap plant extracts such as green tea within their hydrophilic inner core, separating them from the constituents of the formulas and protecting them from degradation.

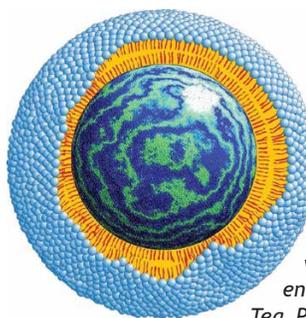
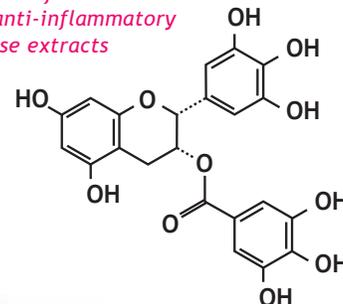
In vitro test - NBT test:

We used Nitroblue Tetrazolium (NBT) in vitro test to demonstrate the ability of Green Tea extract to inhibit the formation of the superoxide radical ($O_2^{\cdot-}$), generated by UV light during the test (note: the results below are expressed as relative activity compared to GT in solution).

- Solution of Green Tea extract:	100%
- Glycospheres-GT:	421%

Green extracts show a very high level of activity against superoxide radical. However, it appears that, during the test, when the solution is irradiated to generate the radical, green tea polyphenols are not stable. On the contrary, Glycospheres-GT, which remain stable during the test, exhibit a relative activity more than four times higher.

Epigallocatechin gallate, one of the polyphenols found in green tea extracts, responsible for the antioxidant and anti-inflammatory properties of these extracts



Glycospheres are based on a stable inner core, made of a network of cross-linked starch. This polysaccharide has been modified with a quaternary ammonium, which allows it to bind and entrap poly-anions like Green Tea Polyphenols. The core is surrounded by lipid layers which helps protect the entrapped molecules.

INCI name:

Water (And) Pentylene Glycol (And) Palmitoyl Hydroxypropyltrimonium Amylopectin/Glycerin Crosspolymer (And) Camellia Sinensis Leaf Extract (And) 1,2-Hexanediol (And) Caprylyl Glycol (And) Hydrogenated Lecithin

Applications

- Gs-GTS is used as a free-radical scavenger in anti-aging or anti-inflammatory products, regenerating creams or slimming products
- Gs-GTS is best formulated by replacing part of the water in the formula by the Glycosphere suspension
- Recommended use level is between 1 and 5%



KCL-037A

Face and Body Scrub

Part 1

● Deionized Water - Water	37.90%
● GLYCERIN U.S.P. Natural 96% - Ruger Chemical: <i>Glycerin</i>	10.00%
● Butylene Glycol - Ruger Chemical: <i>Butylene Glycol</i>	1.00%
● Keltrol® CG - CP Kelco: <i>Xanthan Gum</i>	0.50%
● Sodium Chloride - Morton Salt: <i>Sodium Chloride</i>	0.30%
● Allantoin - Jeen International: <i>Allantoin</i>	0.10%

Part 2

● Ritafactant SFE - RITA: <i>Lauryl Glucoside (And) Sodium Lauroyl Sarcosinate (And) Disodium Cocoamphodiacetate (And) Sodium Lauroyl Lactylate</i>	10.00%
● JOS10M5 - Kobo Products: <i>Simmondsia Chinensis (Jojoba) Seed Oil (And) Silica</i>	3.00%
● Beeswax White SP 422P - Strahl & Pitsch: <i>Beeswax</i>	1.00%
● Candelilla Wax SP75 - Strahl & Pitsch: <i>Candelilla Wax</i>	1.00%
● XIAMETER™ PMX-200 Silicone Fluid 350 cSt - Dow Chemical: <i>Dimethicone</i>	1.00%

Part 3

● Gs-GTS - Kobo Products: <i>Water (And) Pentylene Glycol (And) Palmitoyl Hydroxypropyltrimonium Amylopectin/ Glycerin Crosspolymer (And) Camellia Sinensis Leaf Extract (And) 1,2-Hexanediol (And) Caprylyl Glycol (And) Hydrogenated Lecithin</i>	3.00%
● Gs-PCOGS - Kobo Products: <i>Water (And) Pentylene Glycol (And) Palmitoyl Hydroxypropyltrimonium Amylopectin/ Glycerin Crosspolymer (And) 1,2-Hexanediol (And) Caprylyl Glycol (And) Vitis Vinifera (Grape) Seed Extract (And) Hydrogenated Lecithin</i>	3.00%
● Gs-PPYS - Kobo Products: <i>Water (And) Pentylene Glycol (And) Papain (And) Palmitoyl Hydroxypropyltrimonium Amylopectin/ Glycerin Crosspolymer (And) 1,2-Hexanediol (And) Caprylyl Glycol (And) Hydrogenated Lecithin</i>	3.00%
● Cn-HAHWS - Kobo Products: <i>Water (And) Pentylene Glycol (And) Palmitoyl Hydroxypropyltrimonium Amylopectin/ Glycerin Crosspolymer (And) 1,2-Hexanediol (And) Caprylyl Glycol (And) Sodium Hyaluronate (And) Hydrogenated Lecithin</i>	2.00%
● Lexgard® Natural MB - Inolex: <i>Glyceryl Caprylate (and) Glyceryl Undecylenate</i>	1.20%
● Witch Hazel - American Distilling Inc.: <i>Witch Hazel (14% Natural Grain Alcohol)</i>	0.05%

Part 4

● KoboScrub™ SD-200 - Kobo Products: <i>Silica</i>	15.00%
● KOBPEARL® PERPETUAL IO PastelLilac - Kobo Products: <i>Synthetic Fluorophlogopite (And) Titanium Dioxide (And) Iron Oxides (CI 77491)</i>	1.00%

Part 5

● SpS-5coral56m - Kobo Products: <i>Water (And) Propylene Glycol (And) Pentylene Glycol (And) Mica (And) Tocopheryl Acetate (And) Polyquaternium-11 (And) Agar (And) Iron Oxides (CI 77491) (And) 1,2-Hexanediol (And) Caprylyl Glycol (And) Titanium Dioxide</i>	5.00%
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Part 6

● Magnolia and Pink Gardenia - Custom Essence: <i>Magnolia and Pink Gardenia</i>	0.50%
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Manufacturing Procedure:

1. Combine Glycerin and Keltrol CG from part 1 and mix thoroughly, add slurry to water in a beaker and mix under prop mixer at high speed until dispersed. Add the remaining ingredients from part 1
2. Combine part 2 in separate beaker and heat to 70-75C while prop mixing
3. Cool part 2 to 45-50C
4. Add part 1 to part 2, switch to cowles blade and mix at high speed -800-900rpm for 1 hour or until fully dispersed (note: scrap sides and bottom to help disperse)
5. Reduce speed to 500rpm, combine part 3 and add to parts 1-2, mix until uniform
6. Switch to sweep blade, reduce speed to 120rpm then add part 4 to parts 1-3 mix until uniform
7. Add part 5 to parts 1-4, mix until uniform
8. Add part 6 to parts 1-5 and mix until uniform
9. Reduce speed to 30-40rpm and mix until bubbles subside

Description:

Powerful, yet gentle face and body scrub that reveals smooth, soft, and healthy skin. JOS10M5 provides texture and emolliency. KoboScrub™ SD-200 are natural plastic-free silica scrubbing beads that provide gentle yet effective exfoliation. Gs-GTS contains entrapped green tea extract, a free-radical scavenger that increases cell turnover. Gs-PCOGS provides the anti-aging properties of grapeseed. Cn-HAHWS is encapsulated sodium hyaluronate that provides excellent skin moisturization. Gs-PPYS contains Papain, known for its skin-smoothing properties. SpS-5coral56m adds a colorful visual effect and contains entrapped active tocopheryl acetate delivered to the skin upon breakage of the softspheres. KOBPEARL® PERPETUAL IO PastelLilac gives the formula its pearlescent color.