

Vitamin C60 BioResearch Corporation: Fullerene now derived from trees!

-The anti-aging savior is now sustainable-

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Fullerene is a strong antioxidant and is known to be an effective ingredient of anti-aging-based skin care products. After nearly five years of research, Vitamin C60 BioResearch Corporation (Headquartered in Chuo-ku, Tokyo, and led by Chief Executive Officer Gentaro Hayashi) has succeeded in developing **natural-derived fullerene**.

Radical Sponge, the highest-selling cosmetic-ingredient fullerene, has been modified and improved by using natural-derived fullerene; this enhanced product will be launched as **Radical SpongeN** on October 1, 2020.

Fullerene has now been re-invented as a "**natural, high-functioning, pro-sustainability, anti-aging cosmetic ingredient**", rather than just a "high-functioning, anti-aging cosmetic ingredient".



Image: "Natural-derived fullerene"

Reactive oxygen species are considered to be a cause of skin aging as well as various skin problems such as age spots, wrinkles, roughness, noticeable pores, acne, and slackness. Fullerene is a cosmetic ingredient that has high anti oxidative activity because of its suppression of reactive oxygen species generation. It has been shown to have anti-aging effects such as brightening, wrinkle reduction, and moisturization and is included in numerous cosmetic preparations. As mask-wearing has recently become a routine, it has led to an increase in skin problems caused by the decreased barrier function of the skin and irritation by materials of the masks; fullerene has been shown to improve the barrier function.

Characteristics of fullerene

Fullerene exhibits the following three key antioxidant characteristics:

Strong anti-oxidative activity

The antioxidant strength of fullerene—because of its suppression of reactive oxygen species generation—is **250 times that of vitamin C**.

Long-lasting effectiveness

The antioxidant effects are maintained for at least 11 hours. If fullerene is administered topically in the morning, anti-aging care continues until the evening.

Stable against UV

Ingredients possessing high antioxidative activity are generally sensitive to UV. Fullerene, however, **retains its antioxidative activity even under ultraviolet radiation.**



There are six types of fullerene cosmetic ingredients. Their uses depend on parameters such as water solubility, powder form, specialized suitability for sun protection, and suitability for cosmetic use. The amount of fullerene included in a preparation influences the strength and reliability of its effects on the skin. If the packaging of a cosmetic product has one or more of the above logos, it is evidenced that the preparation has the recommended dose, which is more than 1%, in order to efficiently realize the effects of fullerene.

Development of Radical SpongeN containing natural-derived fullerene

Launched in 2005 as the world's first water-soluble fullerene cosmetic-ingredient, Radical Sponge is now a popular product, with the highest global sales of any fullerene cosmetic raw material.

Radical Sponge has now been modified and improved by replacing the fullerene with natural-derived fullerene and is set to be launched as **Radical SpongeN** on October 1st, 2020.

In recent years, there has been a strong shift toward natural and a drive for sustainability. Vitamin C60 BioResearch Corporation has succeeded in preparing fullerene from plant materials, after having spent about five years on this project. The greatest importance is given to **sustainability** in our production process. Timber from natural *Cryptomeria* trees, which are carefully managed in Miyazaki Prefecture in Japan, is used as the starting raw material. This timber is processed into pellets at a company approved in accordance with the Clean Wood Act, which promotes sustainable forestry and forestry-related businesses, in order to reduce its consumption. Using hydroelectricity, which is a clean energy source, the pellets are processed into natural-derived fullerene, and the cosmetic-ingredient fullerene is then manufactured using proprietary technologies.



To make the product more environmentally friendly, an improvement—replacement of the plastic packages with aluminum pouches—has been implemented, thereby reducing waste generation by ~90%.



Environmentally friendly packages

A logo indicating that only natural-derived fullerene is used has been created. Cosmetic preparations that contain natural-derived fullerene, at concentrations that allow its effects to be realized, bear the logo shown below. When you buy or are given cosmetics, be sure to check that they have this logo!



Logo showing that only Natural-derived fullerene is used

Several of our products are modified and improved by using natural-derived fullerene and will be relaunched on October 1st, 2020. These are Veil FullereneN, which is a powder type with optimal compounding; Sun Guard FullereneN, for sun-care products; and Hair Shiny FullereneN, for hair care products.

At Vitamin C60 BioResearch Corporation, we aim to contribute to achieving a sustainable society by using sustainable natural materials for fullerene production. We also aim to reduce waste generation, to reduce environmental pollution by using green packaging.

We intend to take further measures for environmental protection in the future.

For questions about this release, contact

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