

Sanyo Chemical Developed SPF Booster Derived from Rice Bran

— Contributed to the development of environmentally friendly sunscreen formulations that prevent leaving white cast and creakiness —

Sanyo Chemical Industries, Ltd. pleased to announce that it has developed a rice bran-derived SPF* booster KOMEFINE[®] which can be blended into sunscreen formulations to improve ultraviolet (UV) protection and provide a pleasant feeling of use. Rice bran is a major agricultural by-product of rice polishing, and it is used for rice oil extraction, fertilizer, and feed, but part of it has been disposed of as industrial waste. KOMEFINE[®] is an environmentally friendly ingredient that upcycles such rice bran. KOMEFINE[®] is suitable as an ingredient for sunscreens which are sustainable, environmentally friendly, and more natural with plant-based ingredients.

Ultraviolet (UV) rays are a cause of photoaging, such as wrinkles and sagging skin. Preventing UV rays by sunscreen such as UV care creams is one of the most important measures to maintain healthy skin. Sunscreens use UV absorbers and UV scattering agents as main UV filters against UV rays. UV absorbers are organic compounds that absorb UV energy and convert it into harmless heat energy and other forms of energy. Although they are highly effective in protecting against UV rays, they can be a burden to some people's skin and cause stickiness depending on the type and amount used. On the other hand, UV scattering agents are inorganic components that physically block, reflect, or scatter UV rays and are characterized by less irritation to the skin compared to UV absorbers. However, because they are fine white powders, increasing the amount of UV scattering agents in a product tends to leave white cast and unpleasant creaky feel. Generally speaking, achieving higher UV-protection effect requires a large amount of these UV filters, making it difficult to achieve both a high UV-protective effect of sunscreen (higher SPF values) and a comfortable feel.

KOMEFINE[®] raises the scattering effect by improving the dispersibility of UV scattering agents, thereby it can reduce the amount of UV scattering agents and prevent white casts and creakiness. It also contains natural ferulic acid derived from rice bran, which is known to have UV absorbing ability. By adding a small amount of KOMEFINE[®] in sunscreen formulation, it is possible to achieve a high UV-protection effect and a comfortable feel. Reducing the amount of UV absorbers can reduce the burden on the skin. Thus, KOMEFINE[®] enables sunscreen formulations to provide high UV-protective effect and a pleasant feeling. Furthermore, KOMEFINE[®] is plant-based ingredient, which not only responds to the recent trend toward natural products, but is also a new material that upcycles rice bran, and is expected to contribute to reducing environmental impact and revitalizing local industries in addition to providing the above performance.

We will continue to explore the further possibilities of KOMEFINE[®] and propose new values tailored to customer needs.

Features

(1) Exhibits an SPF-boosting effect when used in sunscreen

When 0.5% is added to a sunscreen formulation, the SPF value can be increased by approximately 1.6 times.

High UV-protective effect (SPF50+) is achieved even when the amount of UV absorbers and UV scattering agents are reduced by 25% each (*in vivo* n=5 results).

- (2) Sunscreen formulations containing KOMEFINE® are comfortable to use, with no white cast, creakiness, or stickiness.
- (3) Upcycling rice bran from 100% domestically produced rice can contribute to the realization of a sustainable, recycling-oriented society, including the revitalization of local industries.

Information on Cosmetic Ingredients

KOMEFINE®

INCI Name : Oryza Sative (Rice) Bran Extra

Appearance: Pale yellow powder

-Also comply with cosmetic ingredient regulations in China and Japan

<Reference >

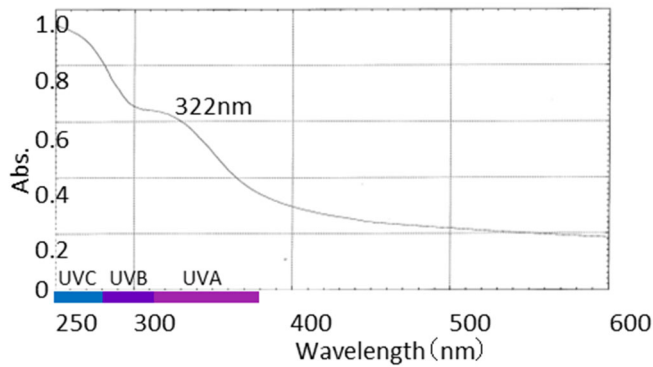


Figure: Absorption spectrum of KOMEFINE®

Exhibits a broad absorption spectrum that can absorb from ultraviolet A wave (UVA) to C wave (UVC)

	CONTROL	With KOMEFINE®
Red-light-emitting images	<p>Aggregation</p>	<p>Finely dispersed</p>
Bright-field images	<p>Aggregation, Large emulsified droplets</p>	<p>Finely distributed, fine emulsified droplets</p>

Figure: Effect on dispersibility improvement of UV scattering agents

Red fluorescent powders as UV scatters were blended into a sunscreen formulation and their dispersion was observed under a microscope.

The one containing KOMEFINE® has an excellent feel because the scatters are evenly dispersed, and the emulsion droplets are fine.

*Abbreviation of "Sun Protection Factor," meaning a coefficient that expresses the effectiveness of UV protection. UVB that causes redness and inflammation on the skin

(The higher the number, the more effective the protection against UVB (ultraviolet B wave).

About Sanyo Chemical

Sanyo Chemical established in 1949 in Kyoto, Japan, is a global manufacturer and seller of performance chemicals. Beginning as a manufacture of soap and texture agents we have since diversified our product portfolio to meet the needs of the market, Today, we feature over 3,000 different types of products and have established an international presence. Our portfolio of chemicals spans a variety of industries and types, from automotive components to daily-use electronics, as well as cosmetics and medical equipment, all with the aim of creating ore safe and environmentally friendlier offerings, improving lives and societies across the world. We aim to contribute to realize a sustainable society through our corporate activities.

<https://www.sanyo-chemical.co.jp/eng>

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