

## Press Release

## Research and Development

## Shiseido extends adoption of "LiquiForm®" to pump dispenser containers, realizing a reduction in the environmental burden

- Container design that achieves compatibility between design and functionality while reducing the amount of plastic used by roughly 56% from the current containers -

Shiseido Company, Limited ("Shiseido") extended the adoption of LiquiForm® to pump dispenser containers. This manufacturing technology realizes a reduction in the environmental burden by combining the "bottle-molding" and "filling" processes into one step. While reducing the environmental impact, the developed cosmetics packaging also achieves compatibility between design, which is linked to the appeal of containers distinctive to cosmetic products and a pleasant feeling during use, and functionality, which includes features such as ease of holding and handling. This time, bottle-molding using LiquiForm® was found to reduce the amount of plastic used for individual containers by roughly 56%, enabling a reduction in CO<sub>2</sub> emissions (greenhouse gas emissions) by roughly 48% compared with current containers\*1.

Moving forward, Shiseido will continue to develop cosmetics packaging that balances respect for and coexistence between people, society, and the global environment and the satisfaction obtained from high-quality design and feel of its products. This will provide options for solving environmental issues in which customers can also participate. Shiseido plans to roll out products in the LiquiForm®-based packaging and expand its application to the Prestige and other brands.

\*1 The amount of plastic and level of greenhouse gas emissions from individual refill containers before and after renewal were compared. Third-party verification of greenhouse gas emissions from individual containers was carried out using the SuMPO EPD (compliant with ISO 14025).



Fig.1: Pump dispenser container adopting LiquiForm®;  
(left) dispenser and (right) LiquiForm® bottle

## Achieving a new shape of cosmetics packaging that is easy to grasp and fits comfortably in the hand (Fig.2)

In 2022, Shiseido adopted LiquiForm® in the development of sustainable cosmetics packaging \*2 for the first time in the world. At the time, it also examined the two-body structure, in which a refill container manufactured using LiquiForm® is enclosed in the outer container. However, there was a problem with the increase in size compared with the current packaging. Therefore, to preserve the size and design of the current packaging, Shiseido took on the challenge of using the soft plastic refill container as is for the side of the container. To create a shape that allows the top of the container, made of hard material with a pump attached, to be inserted into the soft refill container, multiple problems had to be resolved, such as drop impact strength, light resistance of the contents, ease of content discharge unique to the pump dispenser, and a reduction in plastic volume. Through repeated examinations of the balance between the size of the human hand and the size of the container's main body from an ergonomic viewpoint, and by getting customers to try it, an optimal shape that fits comfortably in the hand was successfully developed.

\*2 Shiseido Becomes World's First to Develop Sustainable Replaceable Cosmetics Packaging Using LiquiForm® (2022)

<https://corp.shiseido.com/en/news/detail.html?n=0000000003504>



Fig.2: Soft-hard balance design for a comfortable fit in the hand according to the shape of each person's hand

### Consumer sensibility survey

Shiseido conducted a questionnaire survey of 130 women aged 20–34 years in Japan and China (64 in Japan and 66 in China) regarding a new type of cosmetics packaging that satisfied both the design and functionality aspects. Participants were asked to use this product for four consecutive weeks and evaluate their impressions of the packaging and changes in their feelings before and after use.

According to the survey results, in the evaluation of their impressions of the packaging, 88% of participants responded that they thought "it is environmentally friendly," and 89% responded "it aligns with the upcoming age." In addition, in the evaluation of their feelings after use, 91% responded that "it feels nice and comfortable to touch," and 84% responded "it feels healing." These results confirmed that their feelings changed in a positive direction after four weeks of use.

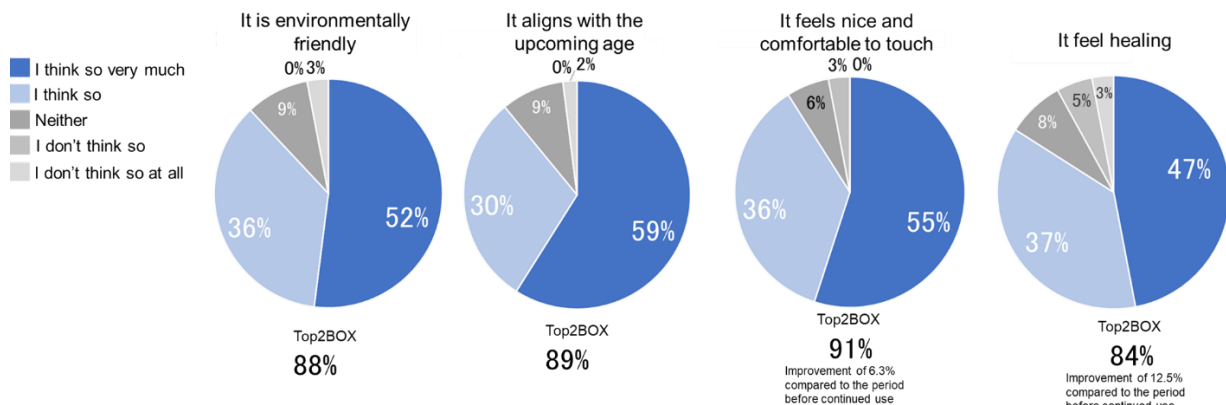


Fig.3: Evaluation of impressions of the packaging

Fig.4: Evaluation of feelings after four weeks of use

### Future Prospects

Shiseido will continue to work on the development of cosmetics packaging, which will provide opportunities to consider environmental issues and offer new options for solving problems in which customers can participate. We will continue to work with all stakeholders to take action to resolve environmental and social issues through our core business of creating value for "beauty."

### Researcher



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**R&D Strategy**

Shiseido has established three pillars under its R&D philosophy "DYNAMIC HARMONY" to accelerate innovation: "Skin Beauty Innovation: Enhancing brand value," "Sustainability Innovation: Creating circular value," and "Future Beauty Innovation: Challenging new domains." Additionally, Shiseido promotes open innovation and advances new value creation through research alliances with various external organizations. The innovative research outcomes generated from the fusion of Shiseido's advanced science and the knowledge and technology of world-class research institutions are highly regarded academically on a global scale, including at the IFSCC Congress, the world's largest and most prestigious research conference on cosmetic technology.

**About R&D Philosophy "DYNAMIC HARMONY"**

<https://corp.shiseido.com/en/rd/dynamicharmony/>