August 19, 2025

Sunsho Aroma Capsules Head to Space
Aroma Enhanced Eye Masks Adopted Aboard the ISS

— Sunsho Pharmaceutical's Aroma Capsule Technology Heads to Space —

● We are pleased to announce that an eye mask product embedded with Sunsho Pharmaceutical's seamless capsules (*1) has been selected for the International Space Station (ISS) under JAXA's "Kibo" Utilization Program.
● This product offers a new relaxation experience that combines aroma capsules with essential oils and a moisture-absorbing and heat-generating felt material. It was developed to enhance both astronaut performance and quality of life on earth.
● A Japanese crew member is scheduled to use this product aboard the Japanese Experiment Module "Kibo" on the International Space Station (ISS) as early as summer of 2025.

■ Background of the Joint Development and Significance of the Project

This project was realized through the collaboration of three companies - Nitori Co., Ltd., IRiS Tokyo Co., Ltd., and Sunsho Pharmaceutical Co., Ltd. - under the "Think Space Life Accelerator Program 2021" which aims to create new products that improve life both in space and on earth. (As of April 1,

2024, the operation of the Think Space Life platform has been transferred to an NPO, Miratsuku.)

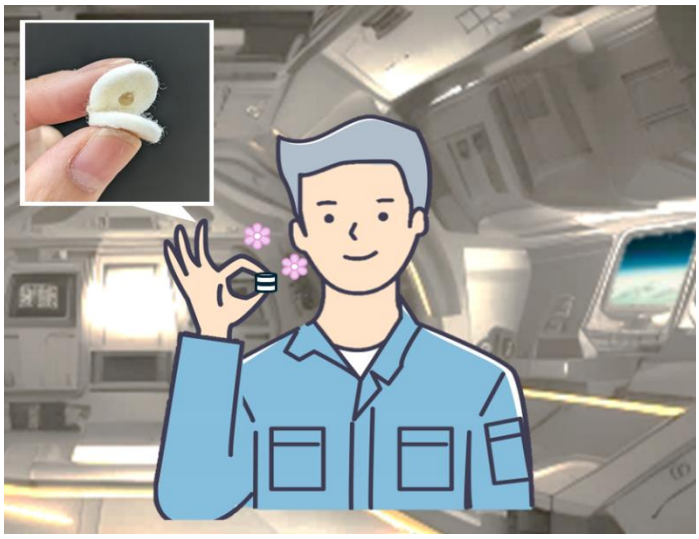
To address challenges that astronauts face during their long-term stays in space - such as sleep, relaxation, and scent - Sunsho Pharmaceutical developed a new sleep experience that restores quality of sleep utilizing fragrance and warmth. By engaging in the technologies and expertise of multiple companies, we created an eye mask embedded with aroma capsules that is specifically designed for use in space.

We are utilizing JAXA's "Kibo" program with the aim of enriching life both on earth and in space.

■ Aroma Capsule and Moisture-absorbing Heat-generating Material

Aroma capsules used in this product contain a natural essential oil blend designed by IRiS Tokyo, that is encapsulated within a hermetically sealed seamless capsule (*1) developed by Sunsho Pharmaceutical. These capsules are embedded in a felt component, allowing the fragrance to remain fresh for an extended period. At any preferred moment, the user can simply press and pop the capsule with their fingers, releasing a gentle woody aroma reminiscent of a forest.

Furthermore, the eye masks use Nitori's moisture-absorbing heat-generating material "N-Warm" that offers a soothing sleep experience harmonizing fragrance and warmth.



■ Taking on the Challenge of the Extreme Environment of Space

Products intended for use in space must meet significantly higher standards of safety, stability, and durability compared to those used on Earth.

Extensive consideration was given to every aspect of this product including material selection, formulation design, and structural validation to ensure that a capsule containing volatile components such as essential oils could be used safely and reliably in space. Safety reviews for onboard use were also conducted. This marks the first time under JAXA's "Kibo"program that aroma capsules containing essential oils will be used in space.

This project aims to create innovative products that enrich life both on earth and in space.

■ Future Outlook

This initiative marks the first attempt by Sunsho Pharmaceutical to apply its formulation technologies - cultivated through years of OEM experience in health foods and supplements - to the extreme environment of space. Building on insights gained from space missions, we aim to further refine our expertise in designing and manufacturing aroma capsules. At the same time, we will continue expanding applications for terrestrial products centered around themes such as aroma and relaxation.

We are currently exploring commercialization of the aroma capsule eye masks that were launched into space. We are seeking partner companies interested in joining us for product distribution. Additionally, we welcome inquiries from

companies interested in developing new products utilizing our capsule technology.

■ Comments from the Project Leader

Mitsuhiro Fukuda, Director of New Application Development

“Even under microgravity conditions in space, our capsules allow for the safe and simple handling of liquid essential oils. Building this mechanism was the core challenge of this project. From the formulation of hermetically sealed capsules to safety reviews and export control compliance, this was an unprecedented challenge for our company. I am confident that the experience we gained from overcoming each hurdle will greatly contribute to the development of future products. Moving forward, we aim to apply this technology not only in space but also across a wide range of terrestrial products. Together with our partner companies we will continue to create new value.”

■ Contact Information

Kenichi Fujisaku, Manager, Public Relations
Sunsho Pharmaceutical Co., Ltd.
Email: kenichi.fujisaku@sunsho.co.jp

※1 Seamless Capsules

Capsules manufactured using the property of liquids to form spherical shapes due to surface tension, resulting in a seamless structure.

They allow oil-based liquids to be sealed within a membrane made of gelatin, agar, or similar materials. Unlike softgel capsules commonly used in supplements - which are made by bonding membranes and thus have seams - this type is referred to as “seamless” because they have no seams.