

**FOR IMMEDIATE RELEASE**

April 26, 2024

## ***LUNAFLOW*, a Water-based Mold Release Agent that Maintains a Slippery Surface**

### **A New Concept Coating Agent Utilizing Cellulose Nanofibers**

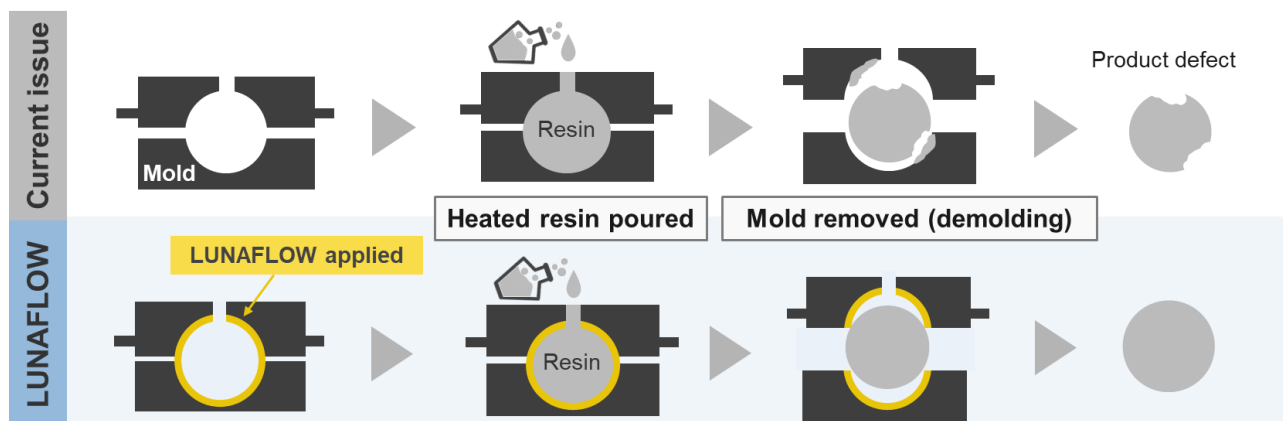
In May 2024, Kao Corporation will launch *LUNAFLOW RA*, a mold release agent for use in smoothly removing rubber and resin products from molds during manufacture. *LUNAFLOW RA* is made using cellulose nanofibers (CNF), a cutting-edge biomass material, and features superior demolding performance and durability for repeated use once applied. The product can be expected to improve work efficiency in the manufacturing process, and is both solvent- and fluorine-free, making it friendly to both the workers and the environment.



Video: [Introducing \*LUNAFLOW\* Mold Release Agent](#)

### **Background**

CNF is a cutting-edge biomass material made from fibers obtained from wood and other materials that have been micronized to the nanoparticle level. It is used as a material in automobiles, construction and in other applications because of its outstanding features, including being five times stronger than steel at just one-fifth the weight. Kao has the technology to control CNF for ease of use (hydrophobization technology)\*<sup>1</sup>, and to date has sold CNF that has been customized for each user's specific purpose and application. In 2021, Kao also established a technology that combines CNF and lubricating oil to make the applied target surface as slippery as the viscous surface of a pitcher plant (slippery surface technology)\*<sup>2</sup>. Kao is thus now launching *LUNAFLOW RA*, a mold release agent based on this cumulative knowledge and technology.



Role of the Mold Release Agent

\*1 Kao News Release dated June 25, 2020: [High-Performance Cellulose Nanofiber Composite Resin “LUNAFLEX” with Unique Hydrophobization Technology](#)

\*2 Kao News Release dated October 27, 2021: [Developing a New Coating Technology that with One Application Creates a Surface that Allows Substances to Slide Off without Sticking](#) (in Japanese)

## Product overview

In forming rubber or resin products in a mold, poured material adhering to the mold can lead to reduced work efficiency and give rise to defective products. A mold release agent is applied to the inside of the mold to form a thin film between the mold and the material, acting to prevent adhesion between the two. Demand has increased as products have gotten smaller and more complex, and there is a need for a mold release agent that is highly functional and requires less frequent reapplication.

Utilizing CNF, a cutting-edge material controlled for advanced oil retention with Kao’s proprietary technology, *LUNAFLOW RA* offers outstanding mold release properties and durability. Designed as a solvent- and fluorine-free product, it is friendly to both the workers and the environment.

Product name	<i>LUNAFLOW RA</i>
Application	Mold release agent for rubber and resin
Launch date	May 2024
Sales regions	Japan and overseas

## Summary

In response to the needs of industries dealing with demolding issues, Kao proposes products that can help solve those issues, while aiming to develop products that can be applied to a wide range of materials beyond rubber and resin. Going forward, Kao also plans to adapt this “biomimetic slippery technology” utilizing CNF for other uses, including possibly in developing products that are more stain resistant.

\* This news release is a translation of a Japanese-language news release dated April 10, 2024.

### **Related information**

- [Developing a New Coating Technology that with One Application Creates a Surface that Allows Substances to Slide Off without Sticking](#) (in Japanese)
- [Kao Chemicals product page](#)

### **About Kao**

Kao creates high-value-added products and services that provide care and enrichment for the life of all people and the planet. Through its portfolio of over 20 leading brands such as *Attack*, *Bioré*, *Goldwell*, *Jergens*, *John Frieda*, *Kanebo*, *Laurier*, *Merries*, and *Molton Brown*, Kao is part of the everyday lives of people in Asia, Oceania, North America, and Europe. Combined with its chemical business, which contributes to a wide range of industries, Kao generates about 1,530 billion yen in annual sales. Kao employs about 34,300 people worldwide and has 137 years of history in innovation. Please visit [the Kao Group website](#) for updated information.

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