

FOR IMMEDIATE RELEASE

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Kao Announces Launch of *DANOX RAP-400* Asphalt Recycling Agent Suitable for Perpetually Recycled Pavement Materials

Kao Corporation has launched *DANOX RAP-400* asphalt recycling agent, to rejuvenate reclaimed asphalt pavement (RAP) used in perpetually recycled pavement materials. *DANOX RAP-400* can also improve the durability of asphalt pavement containing high levels of RAP, while reducing the environmental impact using plant-derived raw materials.

Background

Road asphalt pavements deteriorate over time, necessitating periodic repairs. Every year, approximately 20 million tons*¹ of RAP is generated, much of which is recycled into new pavement. When reusing RAP, asphalt recycling agents and virgin asphalt are added to restore the properties of the aged asphalt. (Figure 1)

However, repeated recycling compounds the acceleration and aging of the pavement materials. Even with asphalt recycling agents, restoring the asphalt to its original properties becomes increasingly difficult. In addition, a growing demand for resource circularity is driving the increased use of RAP in pavements, creating a need for new recycling technologies capable of effectively restoring aged pavement materials over the life of the pavement.

*1 [Based on data from the Ministry of Land, Infrastructure, Transport and Tourism's FY2018 Survey into the State of Construction By-products in Japan—discharge amounts of construction waste by category.](#)



Figure 1 Recycling asphalt pavements and effects of using an asphalt recycling agent

Product Features/Description

Kao has launched *DANOX RAP-400* asphalt recycling agent, designed for repeatedly recycled pavement materials. The product offers the following features.

(1) Compatible with perpetually recycled pavement materials

As asphalt in RAP ages due to weathering and in particular UV exposure over time, it causes the components to become harder and more brittle. This makes it increasingly difficult to restore the asphalt to properties close to those of the original material, posing challenges for repeated recycling. *DANOX RAP-400* disassociates and disperses these aggregated components, improving the workability of recycled asphalt materials and enabling continued reuse of RAP.

(2) Improves pavement durability

The use of aged RAP can increase the risk of cracking and potholes, posing challenges for long-term pavement durability. *DANOX RAP-400* has been shown to improve both water resistance and crack resistance. Asphalt pavement consists of asphalt and aggregates such as stone and sand, and *DANOX RAP-400* enhances adhesion between these components, helping to suppress cracking by reducing water penetration.

(3) Utilizes plant-derived materials

Many existing asphalt recycling agents use petroleum-derived materials. However, given demand for low-carbon materials in the road sector, this product uses plant-derived material as its primary raw material.

Product Name	<i>DANOX RAP-400</i>
Category	Asphalt Recycling Agent
Launch Date	May 2026
Regions	Japan and other Asian countries, Europe and the Americas

Future Outlook

DANOX RAP-400 has already been adopted by several Japanese road construction companies. Kao will continue expanding in the domestic market while also promoting the product in Asia, Europe, and the Americas.

RAP is currently reused by mixing it with virgin asphalt. Because *DANOX RAP-400* is highly effective in restoring aged RAP, it enables a higher RAP content in pavement mixtures. Kao will continue advancing technologies aimed at enabling pavement made with 100% recycled asphalt materials.

About Kao

Kao, a Japan-based manufacturer of cosmetics, personal care and household products, as well as specialty chemicals, creates high-value-added products and services that provide care and enrichment for the life of all people and the planet. Through its brands such as Curél, SENSAI, and MOLTON BROWN cosmetics, Bioré and Jergens skin care products, Oribe hair care products, Attack laundry detergent, and Laurier sanitary products, Kao is part of the everyday lives of people across Asia, the Americas, Europe, the Middle East, and

Africa. Combined with its chemical business, which contributes to a wide range of industries, Kao generates about 1,690 billion yen in annual sales. Kao employs about 31,500 people worldwide and has more than 130 years of history in innovation.

Please visit [the Kao Group website](#) for additional information.

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Related Information

[DANOX product page by Kao's Chemical Business](#)