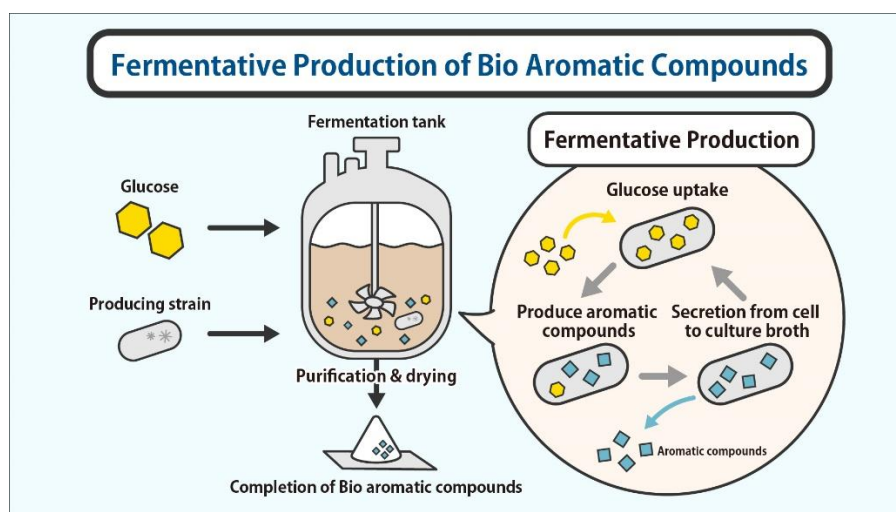


Launch of Bio Aromatic Compound ‘Gallic Acid’ through Fermentation Production*1 Stable Supply of Industrial Essential Chemical Materials

Kao Corporation has succeeded in the manufacture of bio gallic acid*2 from glucose through fermentative production using microorganisms, and launches sales in Japan from December 2023. Gallic acid is a type of aromatic compound with important applications as an industrial antioxidant and raw material used in the manufacture of semiconductor circuit formations, and Kao aims to establish a supply chain to ensure a stable supply to the market.

*1 Producing specific compounds using the characteristics of microorganisms that produce substances within themselves

*2 Gallic acid is manufactured by fermentative production technology, not by conventional methods



Movie: [Fermentative production of gallic acid](#)

1. Background

Gallic acid is one of plant polyphenol and an industrially important aromatic compound broadly used for rust-preventive agents for boiler and to manufacture semiconductor circuit formations, manufacture of semiconductors. However, since gallic acid is produced by extracting from insect galls (gallnut) produced by a wide variety of parasitic organisms living on with plants of the family Anacardiaceae, yield is influenced by weather, and the production sites are limited. When artificially producing gallic acid and other aromatic compounds, complicated processes are necessary so that commercial productions have been limited. Using the fermentative production technology that leverages the accumulated knowledge of detergent enzyme production studies over the years, Kao succeeded in producing*3 gallic acid highly efficiently, which has led to the launch of the bio gallic acid.

*3 Kao Corporation News Release on March 31, 2023: [Fermentative Production Technologies That Made It Possible to Produce Chemical Ingredients from Biomass—Succeeded in Highly Efficient Production of Aromatic Compounds from Glucose Utilizing Microorganisms](#) (in Japanese)

2. Bio Gallic Acid Product Overview

Product name	GA-100 BIO
Beginning of sales	December 2023
Sales area	Japan

3. Future Outlook

Kao is planning to offer bio gallic acid in overseas markets, including those in Asia and Europe. In the future, Kao is also planning to engage in the fermentative production of aromatic compounds other than gallic acid.

Setting the goal of creating a future of *Kirei* for people, society and the planet through the power of chemistry, Kao Corporation Chemical Business has worked to provide solutions for customers, the environment and industry through innovative products and ideas. Through the sale of bio gallic acid and bio aromatic compounds, it continues to expand possibilities.

About the Kirei Lifestyle Plan

Over the past 130 years, Kao has worked to improve people's lives and help them realize more sustainable lifestyles—a Kirei Lifestyle. The Japanese word 'kirei' describes something that is clean, well-ordered and beautiful, all at the same time. The Kao Group established its ESG strategy, the Kirei Lifestyle Plan in April 2019, which is designed to deliver the vision of a gentler and more sustainable way of living. By 2030, Kao aims to empower at least 1 billion people, to enjoy more beautiful lives and have 100% of its products leave a full lifecycle environmental footprint that science says our natural world can safely absorb. For more information, please click [here](#).

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 1,550 billion yen in annual sales. Kao employs about 35,400 people worldwide and has 136 years of history in innovation. Please visit [the Kao Group website](#) for updated information.

Related Information

- Kao Corporation News Release on March 31, 2023: [Fermentative Production Technologies That Make It Possible to Produce Chemical Ingredients from Biomass—Succeeded in Highly Efficient Production of Aromatic Compounds from Glucose Utilizing Microorganisms](#) (in Japanese)
- Link to [Bio website of Kao Chemicals Global](#)

Inquiries from Customers:

[Chemical Business, Kao Corporation](#)