

### **Nagardo from LANXESS receives World Beverage Innovation Award 2022**

- **Natural glycolipids from LANXESS honored as "Best Beverage Ingredient"**
- **Innovative preservative for non-alcoholic beverages**
- **Expanded range opens up new preservation and energy-saving filling options for manufacturers**

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**Cologne, Germany, September 15, 2022** – LANXESS has received the 2022 World Beverage Innovation Award in the "Best Beverage Ingredient" category for its natural preservative Nagardo. The 20<sup>th</sup> World Beverage Innovation Awards, launched by UK-based FoodBev Media Ltd, honoring innovation and excellence across all categories in the global beverage industry. The award ceremony took place on September 13, 2022, during the drinktec trade fair in Munich. The jury had previously evaluated more than 150 entries from 17 countries in 22 categories.

Monika Ebener, Global Marketing Director Natural Antimicrobials in the Beverage Technology business line at LANXESS, who accompanied the natural preservative from discovery to product launch, accepted the award. "Receiving the World Beverage Innovation Award shows that Nagardo has already convinced beverage industry professionals. This reflects the voices of customers who are already successfully testing and using our new product," says Ebener. The preservative is already in use in the USA, Australia, New Zealand and Canada. With the recent EU approval, LANXESS is further expanding Nagardo's global presence.

#### **Active ingredient discovery by screening process**

Due to its high water content combined with potential nutrients such as sugars and fruit components, a beverage is an extremely sensitive product that can spoil within a few days if not treated with physical or

chemical methods. Beverage-damaging microbes should ideally be controlled by naturally means. But natural ingredients, such as essential oils or certain extracts based on rosemary, cinnamon or onion, for example, provide microbial protection that is not nearly as effective as conventional preservatives. In addition, any influence on the taste of a beverage should be avoided.

In its search for suitable products in the biosphere, Dortmund-based start-up IMD Natural Solutions GmbH (INS), which has been part of LANXESS' Material Protection Products (MPP) business unit since 2017, has developed a program based on state-of-the-art research processes and search algorithms. One of the world's largest screenable libraries of more than 100,000 natural molecules from plants, bacteria, algae and fungi was searched for suitable active ingredients.

In this extensive screening process, the most interesting results came from an edible fungus that had previously received little attention: the *Dacryopinax spathularia*, or commonly called "Sweet Osmanthus Ear". This edible fungus is native to tropical and subtropical areas worldwide, is bright orange in color, and grows in the form of small ear-shaped spatulas similar to the osmanthus flower.

The active ingredient is obtained fermentatively through a proprietary, solvent-free, food-grade process. It is composed of molecular congeners in a specific ratio, all consisting of a sugar and a lipid moiety. This class of surface-active compounds that interfere with the cell membranes of microbes is therefore referred to as natural glycolipids.

### **Consumer-friendly marketing options and reliable protection against spoilage**

Nagardo shows superior efficacy against typical beverage spoilage organisms compared to classical preservatives. In most cases, a dosage many times lower than that of conventional excipients is

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sufficient. The broad spectrum of activity, even at low application concentrations, also shows excellent activity against heat-resistant spore-forming organisms such as *Alicyclobacillus* species or representatives of the genera *Byssochlamys*, *Neosartorya* as well as *Talaromyces*. It is also effective against organisms adapted to conventional preservatives, such as *Zygosaccharomyces bailii*.

In the recommended dosage, Nagardo does not affect the sensory properties of a beverage: color, odor and, above all, taste are preserved as intended by the manufacturer. Therefore, the natural glycolipids can be used in a wide range of beverages. Carbonated products in particular benefit from Nagardo, as no second preservative is usually required.

Special dosing technology is also not required: the powder is pre-dissolved in water and added to the beverage formulation during product mixing. Nagardo remains in the beverage and thus protects it naturally even after opening.

### **Economical solution for filling sensitive products**

Nagardo natural preservative allows manufacturers to adapt their portfolio to changing consumer awareness and growing demand for natural ingredients. "Our expanded offering opens up new possibilities for preservation. We want to participate even more in the global growth of the beverage market in the future with our brands Velcorin, which is one of the top technologies for antimicrobial beverage stabilization, and our new Nagardo," emphasizes Janmarc Heitmann, head of MPP's Beverage Technology business. "Individually or in combination, our two technologies are an economical solution for microbiologically safe filling of sensitive products," Heitmann emphasizes. All filling systems, from glass/PET bottles to carton packs, cans, KEGs, and bag-in-box can be served with both technologies.

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The use of Nagardo and Velcorin can help achieve a company's sustainability goals by reducing energy consumption by switching from hot fill or tunnel pasteurization to cold fill. Secondly, due to lower wall thicknesses, less PET is required for the beverage bottles than with hot filling. When both products are combined, depending on the application, further microbiological hurdles, such as energy-intensive distribution and marketing in the cold chain, can be dispensed with.

### Criteria for selecting the appropriate technology

In addition to the output efficiency, a holistic cost consideration for the producer is a decisive selection criterion for the suitable production platform. All costs incurred, i.e. one-off costs as well as running costs, must be taken into account. Cost drivers are, for example, heavy PET bottles for the hotfill process and rising energy prices. Factors such as the positioning of a brand, desired claims or the regulatory situation also influence the selection of a preservation technology.

The great advantage of both Nagardo and Velcorin technology is that they can be used without any problems in new lines and also in combination with existing filling machines that were not originally intended for filling sensitive beverages. These are, for example, fillers for beer or classic soft drinks.

Detailed information can be found at <http://www.nagardo.com>.

LANXESS is a leading specialty chemicals company with sales of EUR 7.6 billion in 2021. The company currently has about 14,900 employees in 33 countries. The core business of LANXESS is the development, manufacturing and marketing of chemical intermediates, additives, specialty chemicals and plastics. LANXESS is listed in the leading sustainability indices Dow Jones Sustainability Index (DJSI World and Europe) and FTSE4Good.

### Forward-Looking Statements

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## News Release

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