# **QUALITY GUARDS.**



Beverage manufacturers tailor beverages to meet their customers' lifestyles – at LANXESS we tailor the corresponding beverage protection. Nagardo® is the natural guardian to secure and prolong the shelf life of your beverage. Safety enabled by nature.



**QUALITY WORKS.** 





#### **NAGARDO®**

# THE NATURAL GUARDIAN FOR BEVERAGE QUALITY

Soft drinks come with a promise of refreshment and drinking pleasure. But the most important promise to consumers is their safety when enjoying a beverage. Nagardo® natural beverage protection helps manufacturers to keep this promise by naturally protecting their products from spoilage. Safety enabled by nature.

#### **BENEFITS**

- Natural beverage protection that allows new marketing opportunities
- Efficient control of a broad range of spoilage organisms
- Pure sensory experience
- Broad application in various soft drink formulations
- Safe handling

## NATURAL BEVERAGE PROTECTION

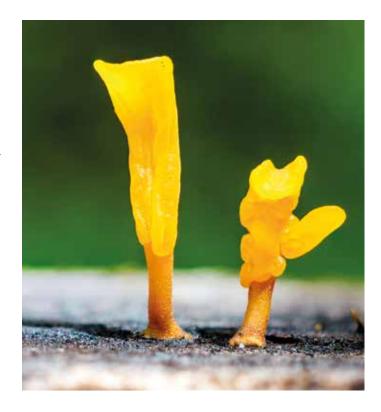
#### **Derived from nature and produced sustainably**

With its natural and sustainable properties, Nagardo® delivers additional marketing benefits to beverage manufacturers. Long-desired natural labels and claims can become reality.

Nagardo® is obtained as a purified mixture of glycolipids. The source organism is an edible jelly fungus called *Dacryopinax spathularia* that grows in (sub-) tropical climates. A proprietary wild-type strain (not genetically modified) is cultivated using renewable raw materials. Pure Nagardo® is recovered by a food-grade and solvent-free process based on filtration and precipitation, without chemical modification.

### NEW OPPORTUNITIES FOR BEVERAGE MANUFACTURERS

- Consumer-friendly labeling
- Natural claims (depending on legislation)



### **HIGHLY EFFICIENT**

#### Nagardo® is up to 50 times more efficient than chemical preservatives

Nagardo® natural beverage protection shows very good efficacy against typical beverage spoiling microorganisms including yeasts, molds and bacteria. In addition, it controls microorganisms that have adapted or are less sensitive to currently used preservatives. It works by interacting with the microbial cell membrane and is chemically stable at a pH range between 2.5 to 7 (it is most effective within a pH range of 2.5 to 4.6).

Tailored dosage is key - the recommended dosage needs to be determined individually for each beverage. We support you in finding the optimal quantity to receive reliable antimicrobial protection at balanced costs.

#### Efficacy data against microorganisms\*

Minimum inhibitory concentrations of Nagardo®; inoculation of >500 CFU/mL

	MIC Nagardo <sup>®</sup> [mg/l]
Yeast	
Saccharomyces cerevisiae	3.1
Zygosaccharomyces bailii	3.1
Zygosaccharomyces rouxii	6.3
Candida parapsilosis	6.3
Mold	
Penicillium roqueforti	12.5
Trichoderma virens	6.3
Aspergillus brasiliensis	6.3
Byssochlamys nivea	12.5
Bacteria	
Acetobacter aceti	50
Acetobacter pasteurianus	6
Lactobacillus brevis	<10
Lactobacillus plantarum	<3.9

<sup>\*</sup> Information only. Efficacy data are approximate values and are not considered part of the product specifications.



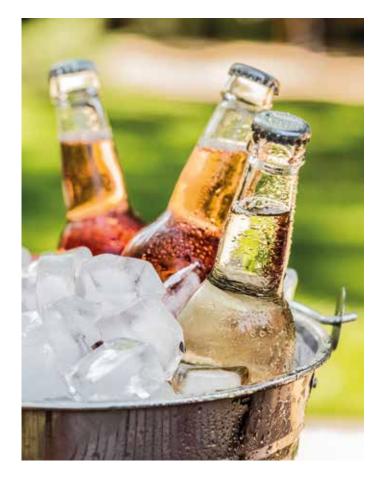
## PURE SENSORY EXPERIENCE

### Nagardo® gives manufacturers full control over the sensory experience of their beverage

Nagardo® natural beverage protection is taste neutral at recommended concentrations and has no effect on the color. It does not interfere with the sensory experience you desire for your customer.

- Taste neutral
- No influence on color





## BROAD APPLICATION

### The application scope of Nagardo® covers various soft drinks\*

- Chemically stable at pH range between 2.5 to 7, most efficacious within pH 2.5 to 4.6
- Nagardo® powder shows good water solubility
- Non-GMO
- Free of known allergens
- GRAS status (US FDA)

#### **RANGE OF BEVERAGES**

- Carbonated & still soft drinks
- Isotonic sports drinks
- Ready to drink teas
- Flavored waters
- Juices and juice-based drinks
- And many more

<sup>\*</sup> As with any product, use of Nagardo® in a given application must be tested (including field testing, etc.) by the user in advance to determine suitability.

### PROCESS INTEGRATION

Nagardo® can be handled like most other beverage ingredients in powder form. It does not require changes to the typical process or even the filling line.

- Application as aqueous stock solution at mixing stage of the production process
- Stable as powder
- Stable in typical beverage processing steps, including flash pasteurization and UV treatment
- No packaging restrictions
- Cost efficient
- Safe to handle



### ALWAYS ON HAND

Our specialists are always on hand to provide detailed advice and comprehensive support for everything related to the use of Nagardo® natural beverage protection:

- Advice on application of Nagardo<sup>®</sup>
- Support in laboratory tests
- Plant assessment
- Onsite production trials
- Regulatory support

What can we do for you? We look forward to each new challenge – and our next conversation with you!

Sales contact: nagardo@lanxess.com www.nagardo.com







#### Contact

LANXESS Corporation
Business Unit Material Protection Products
111 RIDC Park West Drive
Pittsburgh, PA 15275-1112, USA
Phone: +1 412 809-1000

**Energizing Chemistry** 

Fax: +1 412 809-1082 E-Mail: nagardo@lanxess.com Health and Safety Information: Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling the LANXESS products mentioned in this publication. For materials mentioned which are not LANXESS products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be followed. Before working with any of these products, you must read and become familiar with the available information on their hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets and product labels. Consult your LANXESS Corporation representative or contact the Product Safety and Regulatory Affairs Department at LANXESS.

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale. All information and technical assistance is given without warranty or quarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of any patent.

All of the brands are protected brands of the LANXESS Group, unless specified otherwise.

The information contained in this publication is current as of September, 2020. Please contact LANXESS Corporation to determine if this publication has been revised. Nagardo®, LANXESS and the LANXESS logo are trademarks of LANXESS Deutschland GmbH or its affiliates. Trademarks are registered in many countries of the world.

© LANXESS, 2020.