

QUALITY SUSTAINS.



Purox® and Kalama® from LANXESS

Offering sustainably produced Preservatives and Solutions for the Food & Beverage industry. Now also certified to meet ISCC PLUS standards and included in the climate-friendly Scopeblue® product range.

QUALITY WORKS.

LANXESS
Energizing Chemistry

PUROX® AND KALAMA® BENZOATES AND BENZOIC ACID – SUPERIOR PURITY AND QUALITY FOR FOOD-GRADE APPLICATIONS

LANXESS is a global leader in the production of sodium benzoate, benzoic acid, and maximum purity flavor and fragrance ingredients. We ensure highest purity, fast delivery, best availability, low freight costs, an efficient and sustainable supply chain and a worldwide sales and distributor network.

We offer highly effective, nature-identical preservatives that protect food and beverages from yeasts, bacteria, and molds. Our products boast the highest commercially available purity level, accompanied by an excellent odor and taste profile. LANXESS' solutions are available in a choice of packaging formats to meet specific requirements and process needs. Our technical experts will support you in finding the best option to fit your individual needs.



¹ For any applicable maximum use restrictions, please see the respective country's regulations/standards for the relevant products and applications.

Purox® B Food/Pharma Benzoic Acid is utilized in a wide variety of applications as a nature identical preservative. LANXESS is the world's largest manufacturer of this product. Because of its exceptional purity, Purox® B Food/Pharma offers excellent characteristics, such as low odor, no discoloration, and low agglomeration. It is also known as E210.



■ Example Application:
tortillas, typical concentration of Purox® B – 0.03%¹

Purox® S Grains Sodium Benzoate is the highest purity Sodium Benzoate available in the world. It has a long history of use as a globally trusted preservative. It can be used alone in food and beverages up to a pH of 4.5, or combined with other food preservatives for broader applicability. It is considered “Generally Recognized as Safe” (GRAS) by the US Food and Drug Administration (US FDA) and the European Food Safety Authority (EFSA) as a food additive known as E211. This product’s particle size distribution is tailored to provide an optimal combination of low dust content, high flow and excellent dissolution properties.



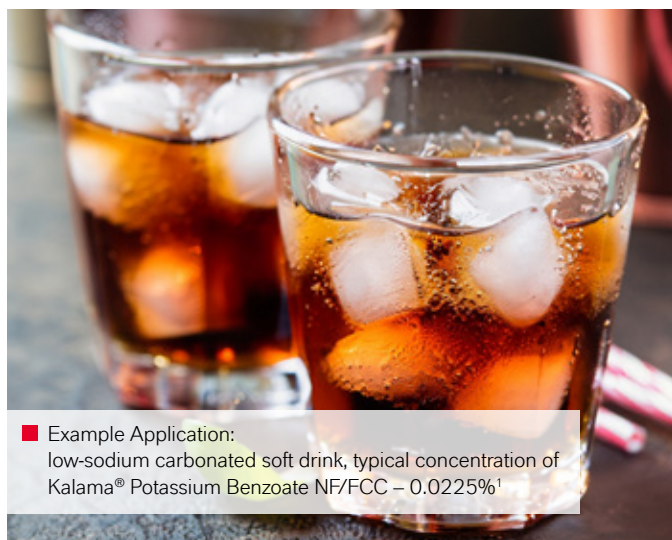
■ Example Application:
jam, typical concentration of Purox® S – 0.06%¹

Kalama® Sodium Benzoate NF/FCC is used to safely and effectively inhibit microbial growth in food and beverages. As food additive E211, it can be used in a variety of applications. Kalama® Sodium Benzoate is available in several forms: Dense Grains, Powder and Extruded Dust-Free (EDF).



■ Example Application:
pickles, typical concentration of Kalama® Sodium Benzoate NF/FCC – 0.0325%¹

Kalama® Potassium Benzoate FCC is a high purity preservative for food and beverage applications with an effective combination of antimicrobial action, safety, and an excellent odor/taste profile. It is also known as E212.



■ Example Application:
low-sodium carbonated soft drink, typical concentration of Kalama® Potassium Benzoate NF/FCC – 0.0225%¹

	Purox® B Food/Pharma Benzoic Acid	Purox® S Grains Sodium Benzoate	Kalama® Sodium Benzoate NF/FCC	Kalama® Potassium Benzoate FCC
Purity	minimum 99.98%	minimum 99.98%	minimum 99.0%	minimum 99.0%
Forms	Flakes (“chips”)	Grains	Dense granules, powder, EDF (Extruded Dust-Free)	Dense granules
Visual Description, taste and odor	White, slight characteristic odor	White, odorless	White, odorless	White, odorless
Regulatory Listings	US-FDA GRAS, EFSA E210	US-FDA GRAS, EFSA E211	US-FDA GRAS, EFSA E211, JECFA	US-FDA GRAS, EFSA E212, JECFA
Certifications	FSSC 22000 FSMS, ISO 9001:2015 QMS; ISO 14001:2015 EMS; ISO 45001:2018 OHSMS; Kosher; Halal	FSSC 22000 FSMS, ISO 9001:2015 QMS; ISO 14001:2015 EMS; ISO 45001:2018 OHSMS; FAMI-QS; Kosher; Halal	FSSC 22000 FSMS, ISO 9001:2015 QMS; ISO 14001:2015 EMS; Kosher; Halal	FSSC 22000 FSMS, ISO 9001:2015 QMS; ISO 14001:2015 EMS; Kosher; Halal
Standards	National Formulary (NF), Food Chemicals Codex (FCC), E210	National Formulary (NF), Food Chemicals Codex (FCC), E211	National Formulary (NF), Food Chemicals Codex (FCC), E211	Food Chemicals Codex (FCC), E212
Food & beverage applications	Flour and corn tortillas, pancakes, pizza, and other non-yeast-raised bakery products; sauces; hot-pack- processed and canned products (e.g. tomatoes and fruits), seafood products; beverages, such as soft drinks and spirits	Jams, jellies, dressings, sauces, condiments, pickles, olives, pastries; feed silage; beverages such as soft drinks, low- alcohol beverages and non-alcoholic beer	Jams, jellies, dressings, sauces, condiments, salads, pickles, olives, pastries, meat products; fruit juices, soft drinks, low- alcohol beverages and non-alcoholic beer	Jams, marmalades, and jellies, margarine, syrup, condiments, dressings; low sodium drinks, flavored soft drinks, cider, non-alcoholic beer

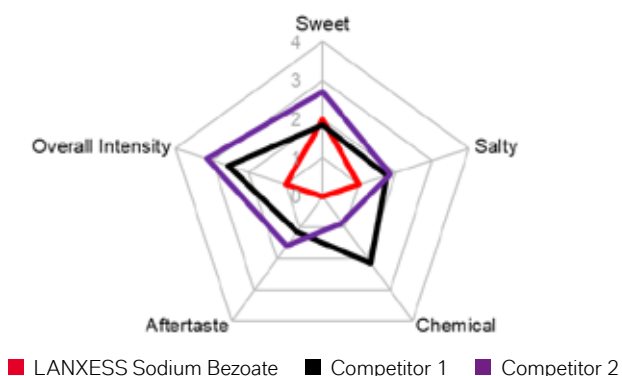


Figure 1. Intensity of five flavor attributes of 0.1 wt% sodium benzoate solutions in water, as assessed by a trained panel in a blind taste comparison. A rating of 0 indicates no intensity (equal to water) and 4 indicates strong intensity. Both Kalama® and Purox® sodium benzoates rated lower in undesirable characteristics such as chemical flavor, aftertaste, and overall flavor strength.

For food and beverage applications, quality is not only about purity – it’s about consistent, superior flavor. Kalama® and Purox® S sodium benzoates stand apart from competitors’ food-grade sodium benzoates in a blind panel taste test assessing neutrality of flavor and absence of unpleasant off-notes (Figure 1). LANXESS sodium benzoates are mildly salty-sweet with a low overall flavor intensity. Competitive samples are consistently stronger in flavor characteristics and contained unpleasant off-flavors as well as lingering aftertaste. LANXESS sodium benzoate products protect food and beverages with minimal impact to the flavor.

In addition to preservatives, LANXESS supplies Benzyl Alcohol, commonly known for its low volatility, and Benzyl Benzoate, which serve as fixatives in confectioneries and chewing gums. These ingredients contribute to the overall sensory experience and stability of the final products.

Furthermore, with our Kalama® FCC Flavor Ingredients, we provide a range of flavors to enhance food and beverage products. Our extensive portfolio encompasses a diverse array of flavors, grouped into four main classes: floral, spicy, fruity and earthy. It includes linear aldehydes (C6, C8, C10), 3-phenylpropanol, cinnamic alcohol and cinnamic aldehyde.



NATURE-IDENTICAL INGREDIENTS PRODUCED USING THE HIGHEST STANDARDS FOR QUALITY, SAFETY & SUSTAINABILITY

We use the highest standards and certifications for quality and responsible manufacturing at our operations in five backward integrated locations on three continents, including Germany (Krefeld-Uerdingen), the Netherlands (Botlek), USA (Kalama), India (Nagda) and England (Widnes).

Certifications

- FSSC 22000 / ISO 22000 Food Safety Management System, c-GMP, HACCP, ISO 9001:2015 Quality Management System
- ISO 14001:2015 Environmental Management System
- Kosher, Kosher for Passover, and Halal offerings
- ISCC Plus (International Sustainability and Carbon Certification)

Standards

- National Formulary (NF)
- Food Chemicals Codex (FCC)
- EFSA E210, E211, E212

ACHIEVE YOUR SUSTAINABILITY TARGETS WITH OUR ISCC PLUS MASS BALANCE CERTIFIED SCOPEBLUE® PRODUCTS

LANXESS now offers the above-mentioned products based on sustainable raw materials and green energy, following the ISCC Plus certified mass balance approach. These products are marketed under the LANXESS sustainability umbrella brand **Scopeblue®**, and lead to a measurably improved carbon footprint with proven premium product quality and unchanged characteristics. The product carbon footprint calculations, certified by TÜV Rheinland/TÜV Süd, adhere to ISO 14067 and the regulations from SBTi, enabling the assessment of CO₂ savings per product. This initiative approach is in line with LANXESS' Corporate 'Net Zero Value Chain Initiative': We continue on our path to climate neutrality for direct emissions and purchased energy (scope 1 and 2) by 2040, and additionally aim at eliminating indirect emissions in our upstream and downstream value chain (scope 3) by 2050. Our experts are here to provide you with more information and assist you.







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Note: Information contained in this publication is current as of January, 2024. Please contact LANXESS Deutschland GmbH respectively LANXESS Corporation to determine if this publication has been revised.

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