

QUALITY IMPROVES.



High-quality Intermediates for further processing and a wide range of applications around the world.

Now also certified to meet ISCC PLUS standards and included in the climate-friendly Scopeblue® and Eco product ranges.

QUALITY WORKS.

LANXESS
Energizing Chemistry

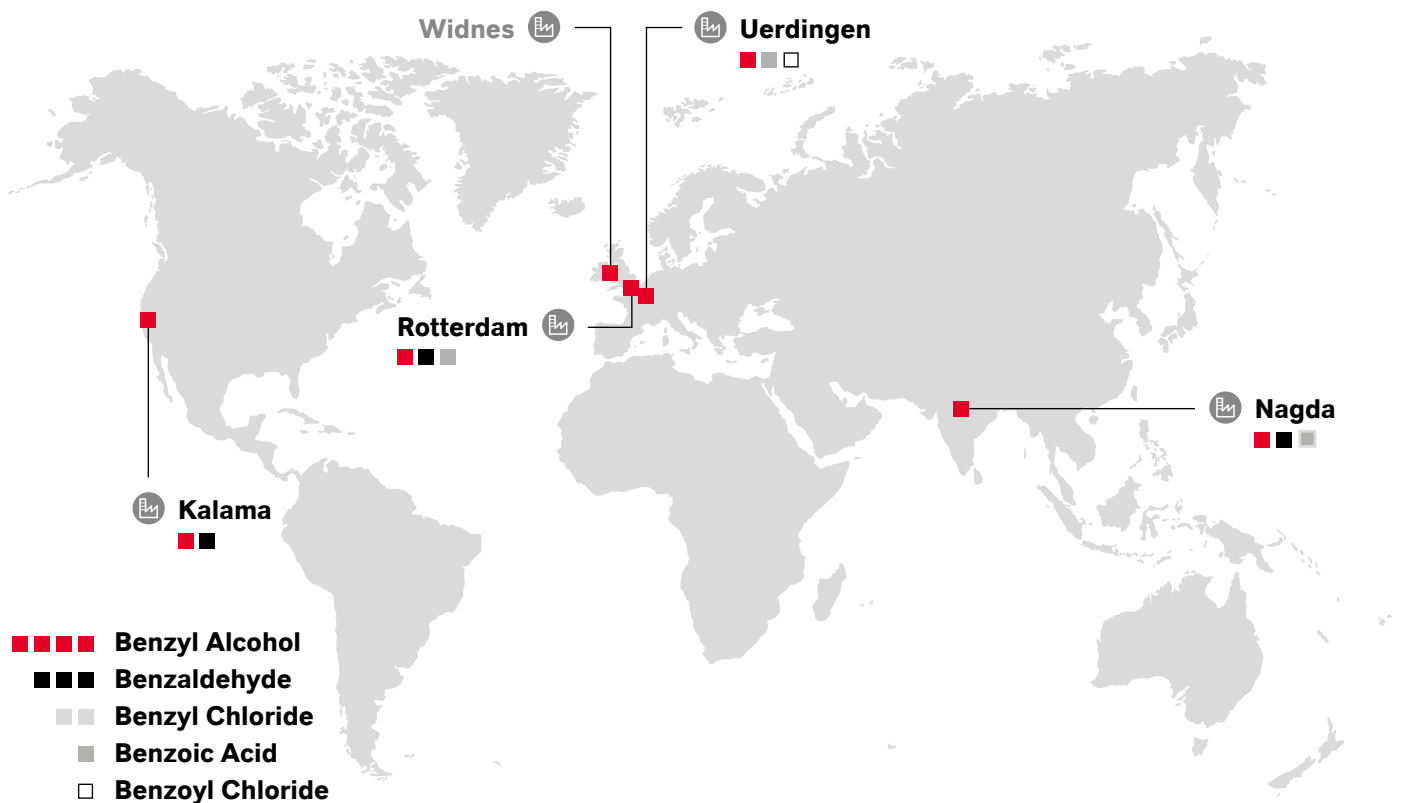
MARKET FOCUS, QUALITY, PARTNERSHIPS AND HIGH LEVEL OF EXPERTISE

LANXESS is known for its high-quality industrial chemicals for diverse applications, e.g. in the pharmaceutical, agrochemical and construction industries. We are one of the world's leading producers of benzyl alcohol, sodium benzoate, benzoic acid, benzaldehyde and other flavor and fragrance ingredients. For most of our products, we offer various grades to meet different market requirements, along with certificates to address diverse demands. We ensure the highest purity, low freight costs, an efficient and sustainable supply chain and a worldwide sales and distributor network.

Designed to exceed expectations in performance, functionality and features, our success is driven by strict market focus and in-depth market knowledge. We pride ourselves on leading technological advances, and our commitment to innovation and continuous improvement ensures that our products remain at the forefront of the market. Our extensive

product range is the foundation of our customers' success. We always strive for partnership, trust, and satisfaction. Continuously improving the relationship with our business partners is an important part of our business philosophy. This is how we combine long-standing manufacturing excellence with strong customer partnerships.

LANXESS Intermediates benefit from a unique, resilient production setup with four sites – one in every major region.



BENEFIT FROM OUR BROAD RANGE OF INTERMEDIATES FOR DIVERSE MARKET APPLICATIONS

Our world-scale production facilities, spread across four locations, allow us to use two main production routes for our benzyl products: side-chain chlorination of toluene (Uerdingen and Nagda) and chlorine-free oxidation (Kalama and Botlek). As a result, we offer products with very low chlorine content and those that are completely chlorine free.

In this product class we produce benzyl chloride, benzyl alcohol, benzaldehyde and benzoyl chloride. We also offer downstream products such as benzyl acetate, benzyl benzoate and cinnamaldehyde. These products are important starting materials for the manufacture of a wide range of products such as agrochemicals, pharmaceuticals, coatings, flavors and fragrances. Our various product grades meet all these different market requirements.

Benzyl Alcohol

is used as preservative, solvent, fragrance fixative and intermediate and is highly valued due to its low volatility and low toxicity. The colorless liquid with a pleasant, mild aroma is suitable for all customer needs. The parenteral grade has a purity of 99.9 percent, is double distilled, free of chlorinated compounds and water, low particulates and toluene. This ensures the highest quality for pharmaceutical products such as preservatives for injection solutions (USP-NF & EP). The NF/FCC grade, given to chemicals that meet the requirements of the United States National Formulary (NF) and the Food Chemicals Codex (FCC), is an effective, high purity preservative for personal care products and cosmetics. The stable odor profile is beneficial in the production of fragrances and food flavorings. The technical PURE grade benzyl alcohol is an excellent solvent, co-solvent and starting material in chemical synthesis. It can be used in technical applications, e.g. in epoxy resins and paint strippers, photo developer systems, and metal cleaning formulations. Our benzyl alcohol production is supported by four plants globally.

Available grades

- Benzyl alcohol technical PURE
- Benzyl alcohol DD (double distilled)
- Benzyl alcohol Pharma Grade
- Benzyl alcohol NF/FCC
- Kalama® Benzyl Alcohol NF-Parenteral
- Purolan® BA

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 offers excellent characteristics, such as low odor, no discoloration, and low agglomeration. It is readily biodegradable and authorized for use under green label certifications, such as the EU Ecolabel, COSMOS, and Nordic Swan. Preservation can be extended through synergies with multi-functionals and surfactants.

It can also act as a building block and chain terminator in alkyd synthesis, imparting gloss, adhesion, hardness and chemical resistance to the final film. Furthermore, it can provide protection against corrosion and flash rust when formulated into products such as automotive coolants and architectural coatings. As a specialty additive it produces high strength HDPE filaments and thermoplastic elastomers, improves the finish in synthetic polyester fibres and acts as a temporary plugging agent in subterranean formations for downhole mud drilling.

Available grades

- Purox® B
- Purox® B liquid
- Purox® B Food/Pharma

Benzaldehyde

is a building block for benzyl amine and benzoin action. It is a non-reactive diluent for high gloss. The FCC grade is the building block for phenylglycine, pseudo-ephedrine and anti-hypertensives. It is also widely used in the synthesis of fragrances such as rose and jasmine, which are used in soaps and perfumes. LANXESS is the world's largest producer of benzaldehyde with production in several regions under the brand names Purolan® AL and Kalama®.

Benzyl Chloride

is a colorless liquid belonging to the aromatic halogenated hydrocarbons. It is an alkylating agent that reacts with water to form benzyl alcohol and hydrochloric acid. Benzyl chloride has a wide range of applications, including the synthesis of pharmaceuticals, agrochemicals, dyes and perfumes.

Benzoyl Chloride

is a colorless to yellow liquid at ambient temperatures with a pungent, fuming odor. It is used primarily as a reactant in the production of benzoyl peroxide. Benzoyl chloride is also used as an intermediate in the production of dyes, surfactants, perfumes, pharmaceuticals, resins and pesticides.

Dibenzyl Ether

is a versatile solvent used in polymer auxiliaries, plasticizers, chemical synthesis, and the manufacturing of fragrances, rubber, and latex.

BUILDING BLOCKS AND ADDITIVES TO ENHANCE PERFORMANCE AND LONGEVITY OF **PAINTS AND COATINGS**

Common Applications	Products
Waterborne architectural and industrial coatings, adhesives, and sealants, epoxies, synthesis of alkyds, cellulose acetate, nitro cellulose, chemical synthesis	<ul style="list-style-type: none"> ■ Purox® B Benzoic Acid ■ Purox® S and Kalama® Sodium Benzoates ■ Kalama® Benzyl Alcohol / Puroxan® BA ■ Benzaldehyde ■ Benzyl Chloride ■ Benzoyl Chloride ■ Dibenzylether



MEETING THE HIGHEST QUALITY AND PURITY STANDARDS FOR **PHARMACEUTICAL APPLICATIONS**

Common Applications	Products
Pharmaceutical actives (e.g. for lice/scabies treatment) and excipients, pharmaceutical synthesis	<ul style="list-style-type: none"> ■ Kalama® Benzyl Alcohol NF / Parenteral ■ Benzyl Alcohol Pharma Grade ■ Kalama® Benzaldehyde FCC ■ Purox® B Food/Pharma (NF/FCC/EP) ■ Purox® S (NF/FCC/EP) ■ Kalama® Benzyl Benzoate



COMPONENTS AND ENHANCERS TO IMPROVE THE EFFECTIVENESS AND DURABILITY OF **ADHESIVES AND SEALANTS**

Common Applications	Products
Waterborne adhesives and sealants, cellulose acetate, nitro cellulose	<ul style="list-style-type: none"> ■ Kalama® Benzyl Alcohol / ■ Purolan® BA ■ Purox® S/ Kalama® Sodium Benzoate



ESSENTIAL COMPONENTS AND ADDITIVES FOR **AUTOMOTIVE, PLASTICS, AND ANTI-CORROSION APPLICATIONS**

Common Applications	Products
Corrosion inhibitor for steel, zinc, copper, copper alloys, soldered joints, aluminum and aluminum alloys, as well as paper wrappings for metal parts and automotive cooling liquids; high-strength HDPE filaments and thermoplastic elastomers; finish in synthetic polyester fibers; temporary plugging agent in subterranean formations for downhole mud drilling; Nucleating agent for polypropylene	<ul style="list-style-type: none"> ■ Purox® B ■ Kalama® Benzyl Alcohol/ Purolan® BA ■ Kalama® Sodium Benzoate/ Purox® S





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Unless specified to the contrary, the values given have been established on standardized test specimens at room temperature. The figures should be regarded as guide values only and not as binding minimum values. Kindly note that the results refer exclusively to the specimens tested. Under certain conditions, the test results established can be affected to a considerable extent by the processing conditions and manufacturing process.

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

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