

QUALITY PROTECTS.



**Cosmetic Preservatives and Synergists from
LANXESS Flavors & Fragrances**

Wide range of offerings for every formulation, including high purity benzoates, blends based on renewable content, and multifunctionals

QUALITY WORKS.

LANXESS

LANXESS Distribution GmbH

COSMETICS PRESERVATION SOLUTIONS FROM LANXESS F&F

The LANXESS Flavors & Fragrances (F&F) business is a leading manufacturer for high purity, sustainable ingredients for global home care and personal care brands, including preservatives.

Our goal is to turn today's consumer wellness trends into your market advantage, including a proven portfolio of antimicrobials, aromatics, and multifunctionals that delight the senses. That's just for starters. Find out how our consumer-friendly technology solutions afford you the ability to manufacture products that address today's evolving consumer trends.

Committed to Consumer Protection

LANXESS Flavors & Fragrances is part of the organization's growing Consumer Protection pillar, focused on solutions to promote enhanced safety and sustainability for consumers.

We help our customers to create formulations that are robustly preserved against the hazards of microbial contamination, while also meeting demand for eco-conscious, high purity, and dermatologically safe ingredients. In addition to offering a wide portfolio of preservative and multifunctional chemistries, our customers benefit from our advanced technical and regulatory capabilities.



LANXESS site in Rotterdam Botlek, NL ■

OUR TRUSTED FAMILY OF BRANDS

Kalama[®]

Purox[®]

X Purolan[®]

X Solbrol[®]

Brands offered by LANXESS F&F are trusted by manufacturers around the world, because they provide **assurance of superior purity, safety, and reliability.**

Our portfolio of ingredients is produced using the **highest industry standards at sites around the world.** This is why we are capable of providing the highest purity benzoates available on the market, manufactured using a chlorine-free process. Food-grade operations are managed using schemes certified to FSSC 22000 and/or HACCP.

Further, our total offering includes **advanced technical expertise.** Our team collaborates with manufacturers, helping them to create innovative, trend-forward formulations and stay ahead of consumer trends and shifting regulations.



BENZOIC ACID, SODIUM BENZOATE & BENZYL ALCOHOL

LANXESS F&F is the largest producer of benzoic acid, produced to high quality standards in every major region. Our benzoic acid is also used to provide high-purity derivatives, such as sodium benzoate and benzyl alcohol.

Purox® B has a minimum purity of 99.98%, and **Purox® S** has a minimum purity of 99.9%, making these products the highest purity offerings for benzoic acid and sodium benzoate available. **Kalama® Sodium Benzoate NF/FCC** also offers an exceptionally high minimum purity of 99%.

Kalama® Benzyl Alcohol NF/FCC is produced to a very high minimum purity of 99.9%. Benzyl alcohol acts as a preservative, fragrance fixative, and solvent. It demonstrates synergies with sodium benzoate, enabling formulators to

enhance preservation robustness by using these ingredients together. LANXESS also offers a parenteral grade for the most exacting requirements in pharmaceutical applications.

These materials are safe, effective solutions to preserve freshness and maintain the integrity of personal care formulations, while also meeting consumer demand for sustainable, clean label solutions. They are nature identical, readily biodegradable, and authorized for use under many green label certifications.

Benzoates can easily be used in combination with other preservatives and multifunctionals to create a robust formulation. Please contact our technical team for assistance optimizing your formula.

Name	INCI	Properties		Application Examples								
		Form	Typical %	pH range	Leave-On Skin Care	Rinse-Off Skin Care	Hair Care	Wipes	AP / DEO	Oral Care	Color Cosmetics	Feminine Hygiene
Purox® B Food/Pharma	Benzoic acid	Grains (odorless and colorless)	0.1 – 0.50	2 – 7.0	■	■	■	■	■	■	■	■
Kalama® Benzyl Alcohol NF/FCC	Benzyl alcohol	Liquid	0.1 – 1.0	3 – 8.5	■	■	■	■	■	■	■	■
PUROLAN® BA	Benzyl alcohol	Liquid	0.1 – 1.0	3 – 8.5	■	■	■	■	■	■	■	■
Kalama® Sodium Benzoate NF/FCC	Sodium benzoate	Grains, Powder, EDF*, or 33% in solution (odorless and colorless)	0.1 – 0.59	2 – 7.0	■	■	■	■	■	■	■	■
Purox® S	Sodium benzoate	Grains (odorless and colorless)	0.1 – 0.59	2 – 7.0	■	■	■	■	■	■	■	■

Typical dosage is shown as percent by weight and is recommended as a starting point. The level needed to achieve sufficient preservation is influenced by many formula-specific factors. Please contact our technical team for support on recommended levels.

* EDF = Extruded dust-free



Leave-On Skin Care
Rinse-Off Skin Care
Hair Care
Wipes
AP / DEO
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Color Cosmetics
Feminine Hygiene
Pharmaceuticals

ADDITIONAL PRESERVATIVE INGREDIENTS

In addition to benzoic acid and its derivatives, LANXESS offers a range of other single preservative ingredients for personal care applications, providing customers with a wide range of solutions to achieve a balance of antimicrobial power, cost effectiveness, and formula-specific requirements.

Purolan® PE is a solvent that works synergistically with other preservatives. In acidic formulas, it works particularly well in combination with organic acids. LANXESS also offers

phenoxyethanol in optimized blends as **Solbrol® PEH** (with ethylhexylglycerin), which is effective within alkaline formulas.

Due to their proven safety profile and efficacy, parabens are used in nearly all cosmetic applications. **Solbrol® M** is available in the form of a sodium salt to increase dissolving speed. While parabens can be used individually, preservation results are usually better when combining different types of parabens.

Name	INCI	Properties			Application Examples								
		Form	Typical %	pH range	Leave-On Skin Care	Rinse-Off Skin Care	Hair Care	Wipes	AP / DEO	Oral Care	Color Cosmetics	Feminine Hygiene	Pharmaceuticals
Purolan® PE	Phenoxyethanol	Liquid	0.4 – 1.00	3 – 8.5	■	■	■	■					
Solbrol® PEH	Phenoxyethanol, ethylhexylglycerin	Liquid	0.5 – 1.00	3 – 9.0	■	■	■	■	■				
Solbrol® M	Methylparaben	Powder	0.2 – 0.40	3 – 8.0	■	■	■	■	■	■	■		
Solbrol® P	Propylparaben	Powder	0.1 – 0.14	3 – 8.0	■	■	■	■	■	■	■		
Solbrol® M Na	Sodium methylparaben	Powder	0.2 – 0.40	3 – 8	■	■	■	■	■	■	■		

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MULTIFUNCTIONALS & SYNERGISTS

Multifunctionals enable formulators to meet needs for clean label solutions by achieving multiple performance benefits with a single ingredient, shortening INCI lists. In addition, they may boost the antimicrobial power of preservatives, making formulations more robust.

Many solutions offered by LANXESS have a natural, sustainable profile, with feedstocks based on biorenewable materials.

For example, **Solbrol® FFA** and **Solbrol® FFA Plus** are natural, renewable blends based on fruit acids. **Solbrol® FFA** offers good protection against microbes and is particularly effective against bacteria. **Solbrol® FFA Plus** shows stronger performance, in particular against fungi. It is suitable for protecting even challenging applications like wet wipes.

Solbrol® SP is an ECOCERT-certified blend featuring bark extract from the white willow tree.

Solbrol® CLL is a 100% renewable surfactant blend based on coconut oil. It helps to create long lasting, creamy foam. Due to its antimicrobial properties, it is used to support actives for anti-dandruff and anti-acne applications, as well as deodorant applications, where it helps to reduce odor due to its efficacy against bacteria that decompose sweat.

Glycols are multifunctional ingredients that, amongst other benefits, improve skin feel and emulsion stability. For organic formulations, **Purolan® PD-LO Natural** is a renewable pentylene glycol offering. **Solbrol® CP** uses the synergistic effect of **PUROLAN® OD** in combination with the fragrance phenethyl alcohol, resulting in a very effective blend with a well-balanced efficacy against both bacteria and fungi.

We work with our customers to help them optimize their formulas to be more sustainable and robust. Please contact our technical team for assistance optimizing your formula.



Multifunctionals & Synergists



Name	INCI	Benefits	Properties			Application Examples								
			Form	Typical %	pH range	Leave-On Skin Care	Rinse-Off Skin Care	Hair Care	Wipes	AP / DEO	Oral Care	Color Cosmetics	Feminine Hygiene	Pharmaceuticals
Kalama® 3PP FCC	3-phenyl propanol	Enhanced stability, fragrance, solvent, texture modifier, process aid	Liquid	0.1 – 0.5	2 – 10	■	■	■	■					
Purolan® HD-LO	1,2-hexanediol	Low-odor solvent	Liquid	1.0 – 5.0	2 – 13	■	■	■					■	
Solbrol® FFA	Aqua, lactic acid, propanediol, citric acid, tartaric acid, gluconic acid	Natural, renewable blend	Liquid	0.8 – 1.5	2 – 6.0	■	■	■		■	■	■		
Solbrol® FFA Plus	Aqua, lactic acid, phenylpropanol, propanediol, citric acid, tartaric acid, gluconic acid	Natural, renewable blend	Liquid	0.5 – 1.0	2 – 6.0	■	■	■		■	■	■		
Solbrol® CLL	Aqua, sodium capryl/lauroyl lactylate, sodium citrate	Renewable surfactant blend for improved foaming, anti-dandruff, anti-acne, and reduced body odor	Liquid	1.0 – 5.0	up to 8	■	■	■		■	■	■		
Purolan® OD	Caprylyl glycol	Emollient, improved skin feel and emulsion stability	Liquid	1.0 – 3.0	2 – 13	■	■	■					■	
Solbrol® CP	Caprylyl glycol, phenethyl alcohol	Emollient, improved skin feel and emulsion stability	Liquid	0.3 – 0.8	4 – 13	■	■	■					■	
Purolan® PD-LO	Pentylene glycol	Low-odor humectant, solvent, and spreading agent	Liquid	1.0 – 3.0	2 – 13	■	■	■					■	
Purolan® PD-LO Natural	Pentylene glycol	Low-odor, renewable humectant, solvent, and spreading agent	Liquid	1.0 – 3.0	2 – 13	■	■	■					■	
Solbrol® SP	Propanediol, salix alba bark extract	ECOCERT certified blend	Liquid	0.4 – 1.0	3 – 8.0	■	■	■		■				
Solbrol® SC Na	Sodium salicylate	Exfoliant, anti-acne, keratolytic	Powder	0.2 – 0.5	2 – 6.5	■	■	■					■	

Typical dosage is shown as percent by weight and is recommended as a starting point. The level needed to achieve sufficient preservation is influenced by many formula-specific factors. Please contact our technical team for support on recommended levels.

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Health and safety information

Appropriate documentation was compiled with information on the health and safety measures that have to be observed in handling the LANXESS products mentioned in this brochure. For materials mentioned here that are not LANXESS products, the operational hygiene and other safety measures recommended by the respective manufacturers must be observed. Before working with these products, you must read and familiarise yourself with the available information on their dangers, proper use and handling. This point is of decisive importance.

Information is available in various forms: such as safety data sheets, product information and product labels. Please contact your LANXESS representative in Germany or the Department of Regulatory Affairs and Product Safety of LANXESS Deutschland. For business in the USA, please contact the LANXESS Product Safety and Regulatory Affairs Department in Pittsburgh, Pennsylvania.

Information on Regulatory Compliance

For some end use purposes of the products found in this brochure, the applicable regulations must be observed, including those of the FDA, BfR, NSF, USDA and CPSC. If you have any questions regarding the approval status of these products, please contact your representative at LANXESS Deutschland GmbH or the Department of Regulatory Affairs and Product Safety of LANXESS Deutschland GmbH or, for business in the USA, your representative at LANXESS Corporation, the LANXESS Regulatory Affairs Manager in Pittsburgh, Pennsylvania.

How and for which purposes you utilise our products, our technical support and our information (oral, written or through product assessments) is beyond our control. The same applies for suggested formulations and recommendations. Therefore it is indispensable that you check our products, our technical support and our information for their suitability for the intended processes and purposes. The application-specific analysis must encompass at least suitability tests in regard to technical as well as health, safety and environmental aspects. Such testing has not necessarily been done by us. Unless agreed to otherwise in writing, all products are sold exclusively in accordance with our general terms and conditions for sale and delivery. Information and technical support are provided without warranty (we reserve the right to make changes at any time). It is expressly agreed that you release us from any possible liability resulting from the use of our products, technical support and information due to fault, contract or other reasons and that you assume this liability yourself.

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