FAKOLITH®
chemical systems
a Fakolith Group Company

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Packaging coatings

We have been pioneers in the research, development, manufacturing and proper certification of coatings for direct and indirect contact with food and beverages for the food industry in general, and now also for food packaging. We innovate in official and private R&D projects, developing primers, barrier coatings and overprint varnishes for food contact use and adjustable to each case. We collaborate with the R&D&I centers of leading suppliers, leading Technological Centers, specialized consultants, converters and other members of the food packaging value chain, to innovate, always seeking a balance between the essential food safety and security, functionality and possible improvements in sustainability. We work with confidentiality with our partners and customers, both with our own brand and with private labels, also as toller or maquilla, transparency with inspection, traceability, good manufacturing practices and unique with HACCP. We invest in official tests of global and specific migrations, organoleptic, extractions, carbon footprint reduction, etc... We detail everything in the mandatory Declaration of Conformity of each coating for food contact. Our plant, permits, processes and products are regularly inspected by the health authorities; General Sanitary Register of Food and Food Companies ES-39.005259/T and ROESP E-0043-E. Can we help you?

For more information download our Food Packaging Coatings Brochure.

BOOSTER FoodGrade

Booster FoodGrade It is a multifunctional polymeric cross-linking additive designed to significantly improve and enhance the physicochemical properties of water-based paints and varnishes, primarily those in Fakolith's FoodGrade and BioFilmStop lines.

500 ml. - 1 l. - 10l.

Booster FoodGrade acts as a post-addition cross-linking agent, reacting and generating a more compact three-dimensional network, increasing the chemical and mechanical performance of the varnish or paint film without altering its transparency, gloss or finish. It improves and enhances properties such as:

- Resistance to moisture and liquid water.
- Resistance to alkalis.
- Resistance to alcohols, fats and oils.
- Resistance to scratching and rubbing.
- Adhesion to different substrates.
- Overall physical, chemical and mechanical properties of the coating or varnish.

FoodGrade Booster is used as a component B, added immediately before application at a **rate of 4% to 8%** by weight of the compatible paint or varnish to be enhanced. The degree of improvement will depend primarily on the percentage added, the type of coating, the surface, the applied thickness, and the drying and curing conditions.

In industrial marking applications, as well as in cases of indirect contact or occasional or repeated contact with food, the use of Booster FoodGrade does not alter the suitability or the applications described in the technical data sheet and Declaration of Conformity for FoodGrade or BioFilmStop coatings. *For example, common uses in coating applications on industrial surfaces such as walls, ceilings, surface marking, functional parts, 3D-printed parts, utensils, etc.*

The use of Booster FoodGrade to enhance the performance of our coatings for food packaging may require additional specific testing, *some of which is already underway by Fakolith in accordance with EC Regulation 852/2004, Regulation 1935/2004/EC, Regulation (EC) No. 1895/2005, Regulation (EC) No. 2023/2006, Royal Decree 847/2011, as well as Commission Regulation (EU) No. 10/2011 and its amendments.*

For further details, please consult our technical and regulatory department.

VARNIPACK FoodGrade

Barrier and overprint varnish, suitable for direct and indirect contact with food, double certified European Regulation EU 10/2011 and American FDA 21 CFR 175.300. For printed food packaging on MDF, paper and cardboard, even flexible, folding cartons, sandwich packaging, labels, wooden packaging and other derivatives.

Jerrycans of 1 and 10 l, 200 l barrel and 1000 l IBC

FEATURES: Varnipack FoodGrade is a colourless, thin-layer, air-drying or forced with temperature, 1-component aqueous dispersion varnish with barrier functions, certified and suitable for direct and indirect contact with food according to European Regulation EU 10/2011 and American Regulation FDA 21 CFR 175.300. Food contact varnish with glossy-satin finish, formulated with modified acrylic copolymers, free of: Bisphenol A (BPA free), APEO, formaldehyde, phthalates, heavy metals, etc.

VarniPack FoodGrade is air-drying and/or forced temperature drying. Ideal balance of physico-chemical performance in its category:

- High resistance to moisture, water and grease.
- Very good chemical and physical resistance
- Balanced barrier functions in its category
- Excellent transfer, wetting and leveling.
- Excellent adhesion, resistance to dry and wet rubbing (SATRA), and compatibility with water-based and solvent-based printing inks.
- Good resistance to tack-blocking, with good static and dynamic COF coefficients of friction.
- Excellent gloss finish and transparency.
- Recyclable and repulpable.
- Low Voc, and low odor.
- Non-hazardous goods for use and transport by road, sea or air.
- Compatible with most containers, heat sealable, hot melt glues, recyclable, compostable and biodegradable containers
- With Food Contact Compliance Declaration

FIELDS OF USE: Mainly used in direct, indirect or occasional contact with food, in single or repeated use food packaging, especially for printed packaging made of MDF, paper and cardboard, even flexible, folding cartons, sandwich packs, labels, wooden packaging and other derivatives.

APPLICABLE: Compatible with most application methods in the packaging industry, flexo and gravure printing,

anilox rollers, curtain coating, blown lip coating, industrial spraying and other systems compatible with aqueous dispersions, preferably with forced drying by hot air, infrared lamps or equivalent systems with temperature to accelerate drying.

PERFORMANCE: Depending on the substrate and objectives, we recommend between 12.5 ml. and 25 ml/m^2, applied in thin layers.

Product for professional use. For a correct application follow the instructions in the technical sheets, application guides and safety data sheets. In case of doubt, consult our technical service.

VARNIPACK FoodGrade BioHybrid

Partially bio-based barrier and overprint varnish, suitable for direct and indirect food contact, certified according EU Regulation 10/2011 and with 39% CO2 emission reduction. For printed food packaging made of MDF, paper and cardboard, including flexible cardboard, folding cartons, sandwich packaging, labels, wooden packaging and other derivatives.

Jerrycans of 1 and 10 l, 200 l barrel and 1000 l IBC

FEATURES: Varnipack FoodGrade BioHybrid is a colorless, partially bio-based (40±2%) 1-component aqueous dispersion coating for carbon footprint reduction, thin film, with barrier functions, widely certified and suitable for direct and indirect food contact, according to the European Regulation EU 10/2011. Food contact varnish with glossy-satin finish, formulated with modified acrylic copolymers, free of: Bisphenol A (BPA free), APEO, formaldehyde, phthalates, heavy metals, etc.

VarniPack FoodGrade BioHybrid is air-drying and/or forced temperature drying. Ideal balance of physico-chemical performance in its category:

- High resistance to moisture, water and grease.
- Very good chemical and physical resistance
- Balanced barrier functions in its category
- Excellent transfer, wetting and leveling.
- Excellent adhesion, resistance to dry and wet rubbing (SATRA), and compatibility with water-based and solvent-based printing inks.
- Good resistance to tack-blocking, with good static and dynamic COF coefficients of friction.
- Excellent gloss finish and transparency.
- Recyclable and repulpable.
- Low Voc, and low odor.
- Non-hazardous goods for use and transport by road, sea or air.
- Compatible with most containers, heat sealable, hot melt glues, recyclable, compostable and biodegradable packaging.
- With Food Contact Compliance Declaration

Bio-Based Technology: Varnipack FoodGrade BioHybrid has a content of 40±2% of bio-based solid coating material. According to the life cycle analysis, it presents a **39% reduction in its CO2 emissions** compared to a similar conventional non-bio-based product (such as Varnipack FoodGrade), providing a relevant improvement of the carbon footprint in its category. External certification carried out by AIMPLAS within the framework of the official

R&D&I project **BIO-HYBRID Food Contact Coatings** according to ISO 14040 and ISO 14044 methodolgy.

FIELDS OF USE: Mainly used in direct, indirect or occasional contact with food, in single or repeated use food packaging, especially for printed packaging made of MDF, paper and cardboard, even flexible, folding cartons, sandwich packs, labels, wooden packaging and other derivatives. **Also, for** the protection and varnishing of parts and surfaces of up to medium physicochemical stress of wood and wood derivatives, such as shelves, cooperage, etc. in the food industry and auxiliary health sectors, hospitals, clinics, in industry, civil works and public and private buildings in general.

APPLICATION METHODS: Compatible with most application methods for packaging, flexo and gravure printing, anilox rollers, curtain coating, blown-lip coating, industrial spraying and other systems compatible with aqueous dispersions, preferably with forced drying by hot air, infrared lamps or equivalent systems with heat to accelerate drying. Other sectors, with brush, roller, airless and air-mix equipment.

PERFORMANCE - CONSUMPTION in PACKAGING: In packaging, depending on the state, type of base and subsequent use are recommended between 12.5 and 25 ml / m^2 applied in thin layers.

PERFORMANCE - CONSUMPTION as Multipurpose varnish: For other open surfaces of the industry such as wood surfaces, derivatives and other compatible surfaces, depending on the absorption of the surface, it is recommended between 50 and 100 ml/m^2 applied in thin layers.

Product for professional use. For a correct application follow the instructions in the technical sheets, application guides and safety data sheets. In case of doubt, consult our technical service.

AdheLith

Adhelith® is the new generation of laminating adhesives developed by Fakolith, available in solvent-based, 100% solids, and water-based formulations, designed to meet the current challenges of food packaging and deliver maximum reliability under demanding conditions, ensuring package integrity and food safety even under the most rigorous retorting conditions.

Three Technologies, One Complete Solution

Adhelith® systems have been validated across a wide range of applications:

- Mono-material laminates (PE/PE, PP/PP)
- Multi-layer structures (PET/PE, PET/ALU, etc.)
- Printed laminates (flexo, gravure systems)

Laboratory testing demonstrates **high bond strength and cohesion**, even after sterilization processes, ensuring packaging stability under real conditions. The Adhelith® ecosystem is built around three complementary technologies, each tailored to specific industrial needs:

Adhelith® Sol HR400

Maximum resistance for extreme conditions

A solvent-based system engineered for high-performance applications, especially *retort* sterilization processes (121°C).

- □□□□□□□□ thermal and mechanical resistance
- Strong cohesion in complex laminates
- Suitable for demanding multi-layer structures (PET, ALU, PP...)
- Prevents delamination under extreme conditions

The solution when failure is not an option

Adhelith® Pure HR300

High performance without solvents

A 100% solids (solvent-free) system that combines sustainability with performance comparable to traditional solvent-based adhesives.

- Zero solvents (VOC-free)
- High thermal and hydrolysis resistance (retort compatible)
- Excellent mechanical strength
- High versatility across flexible packaging structures

Sustainable performance without compromise

Adhelith® Aqua M300

Designed for recyclable packaging

A water-based system developed to support mono-material and recyclable packaging solutions.

- Low VOC emissions
- High compatibility with polyolefins (PE, PP)
- Optimized for mono-material structures
- Enhances recyclability of flexible packaging

Enabling circular packaging solutions

VARNIFLEX FoodGrade BioHybrid

Partially bio-based barrier and overprint varnish, suitable for indirect food contact, certified according EU Regulation 10/2011 and with 58% CO2 emission reduction. For flexible printed food packaging made of PE (polyethylene), PP (polypropylene) and PET (polyethylene terephthalate), and others compatible materials. Due to its innovative bio-based raw materials, its use in direct contact is limited for the time being.

Jerrycans of 1 and 10 l, 200 l barrel and 1000 l IBC

PROPERTIES: VarniFlex FoodGrade BioHybrid is an innovative colorless, self-crosslinking, 1-component aqueous dispersion, partially bio-based (45%±2%), acrylic overprint varnish for the contribution to the improvement of the carbon footprint, thanks to the certified reduction of up to 58% of CO2 emissions. indirect with food. Overprint varnish with gloss finish, formulated with modified acrylic copolymers, free of Bisphenol A, APEO, formaldehyde, phthalates, heavy metals, etc.

FIELDS OF USE: Mainly for external protection of PE (polyethylene), PP (polypropylene) and PET (polyethylene terephthalate) flexible packaging, with limited application to indirect food contact, and also for use in non-food packaging in general given its significant contribution to the reduction of CO2 emissions.

Important Note: Although VarniFlex FoodGrade BioHybrid has been successfully tested for direct food contact according to EU 10/2011, its partially bio-based innovation means that it contains a small amount of a bio-based monomer which is currently not listed in the positive lists, so we prefer to limit its use to indirect contact for regulatory reasons. (More info page 3 data sheet).

VarniFlex FoodGrade BioHybrid as a self-crosslinking coating, although it is also air-drying, obtains its best and suitable performance for food packaging with a short forced drying, up to 2 minutes at 80°C or equivalent (depending on thickness and substrate). Ideal balance of physicochemical performance in its category:

- Excellent reduction of CO2 emissions.
- High resistance to humidity, water and grease.
- Very good physicochemical and heat resistance.
- Balanced barrier functions in its category.
- Excellent transfer, wetting and leveling.
- Excellent adhesion, resistance to dry and wet rubbing (SATRA), and compatibility with water and solvent based printing inks.
- Good resistance to tack-blocking, with good static and dynamic COF coefficients of friction.
- Excellent gloss finish.

- Recyclable and repulpable.
- Low Voc and low odor.
- Compatible with most containers, heat sealable, hot melt glues, recyclable, compostable and biodegradable containers.
- Not dangerous goods, neither for its use, nor for its transport by road, sea or air.
  With Declaration of Food Conformity, limited to indirect contact (for the moment).

Bio-Based Technology: VarniFlex FoodGrade BioHybrid has a content of 45±2% of bio-based solid coating material. According to the life cycle analysis, it presents a reduction of 58% in CO2 emissions compared to a similar conventional non-bio-based product (such as Varnipack FoodGrade), providing a significant improvement in the carbon footprint in its category. External certification carried out by AIMPLAS within the framework of the official R&D&I project BIO-HYBRID Food Contact Coatings and according to ISO 14040 and ISO 14044 methodology.

APPLICATION METHODS: Compatible with most application methods for packaging, flexographic and hollow engraving, anilox rollers, curtain coating, coating with blowing lip, industrial spraying and other systems compatible with aqueous dispersions, with forced drying by hot air, infrared lamps or equivalent systems with heat, which provide adequate drying. Other sectors, with brush, roller, airless and air-mix equipment.

DRYING: forced with hot air, IR infrared lamps or equivalent systems that increase the temperature to at least 80ºC, 2 minutes.

PERFORMANCE - CONSUMPTION in PACKAGING: In packaging, depending on the state, type of base and subsequent use, it is recommended between 12.5 and 25 ml/m^2 applied in thin layers.

Product for professional use. For a correct application follow the indications of the technical data sheets, application guides and safety data sheets. In case of doubt consult our technical service.

UNIPrimer BioHybrid (Soon available)

Aqueous partially bio-based primer, to create a uniform substate for the optimal application and performance of our FoodGrade coatings for direct food contact, and also as barrier to mineral oils, in paper and cardboard packaging.

Jerrycans of 1 and 10 l, 200 l barrel and 1000 l IBC

UNIPRIMER FoodGrade BioHybrid is a universal, partially bio-based, water-based primer designed for food packaging made from paper, cardboard, natural fibres and thermoformed pulp. It improves the applicability, barrier properties and heat sealability of topcoat varnishes such as Varnipack FoodGrade, Varnipack FoodGrade BioHybrid and Aquabarrier FoodGrade BioHybrid.

Key properties:

- **Effective barriers:** Protects against mineral oil migration (MOSH/MOAH) in recycled paper.
- **Sustainable composition:** Partially bio-based (32% ±2%), free from BPA, APEO, formaldehyde, phthalates and heavy metals.
- **Improves absorption and levelling:** Reduces absorption and regulates the substrate for better application of finishing varnishes.
- **Recyclable and repulpable:** Compatible with compostable and biodegradable packaging.
- **Regulation and safety:** Complies with European Regulation EU 10/2011. Migration tests in progress for food certification.
- **Free of hazardous substances:** Safe product for transport and application, with no hazardous goods classifications.

Applications: Ideal as a primer for single-use food packaging, especially for paper, cardboard, thermoformed pulp and other vegetable fibre containers, improving the recyclability of the final packaging.

Application method: Applicable by flexography, gravure, anilox rollers, curtain, coating, industrial spray, airless or air-mix. Forced drying (hot air, IR) is recommended for best results.

AQUABarrier FoodGrade BioHybrid (Soon available)

Partially bio-based aqueous varnish for paper and board food packaging, with special water barrier functionality (Cobb), suitable for contact with solid foods at room temperature, refrigerated and frozen, allowing to replace the usual polyethylene (PE) and aluminum layers. As a top coat, not always reprintable.

Jerrycans of 1 and 10 l, 200 l barrel and 1000 l IBC

AQUABARRIER FoodGrade BioHybrid is a partially bio-based water-based barrier coating designed for food packaging made from paper, cardboard, natural fibres and thermoformed pulp. It provides an excellent barrier against water (Cobb) and water vapour (MVTR) and high resistance to oils and fats, making it suitable for direct contact with solid foods at room temperature, refrigerated and frozen.

Key properties:

- Excellent barrier to water and water vapour, with low Cobb and MVTR values.
- High resistance to oils and fats.
- Good flexibility, adhesion and rub resistance (SATRA).
- Limited reprinting and heat sealing.
- Low VOC and low odour.
- Free from BPA, APEO, formaldehyde, phthalates and heavy metals.
- Compatible with recyclable and repulpable packaging.
- Not classified as dangerous goods for transport.

Applications: Ideal for direct, indirect or occasional contact with food in single-use food packaging, especially for paper, cardboard, thermoformed pulp and other vegetable fibre packaging. Sustainable alternative to polyethylene and aluminium films.

Application method: Applicable by flexography, gravure, anilox rollers, curtain, industrial spray, airless or air-mix. Forced drying (hot air, IR) is recommended for best results.

Ad-Hoc Functional barriers

Barrier and functional coatings to improve packaging resistance to water, grease, oil, odor, repulpability, heat sealing, heat resistance...

Regardless of our certified packaging coatings for direct and indirect food contact, the paper and board packaging sector, as well as the flexible plastics packaging sector, often faces new regulatory or market challenges that require innovative and specific solutions to help them meet their technical, functional and regulatory requirements.

Fakolith, within the field of functional coatings, can develop tailor-made solutions, through our close collaboration with the main innovation centers of leading suppliers, international reference technology centers and other strategic partners, given our long experience in the development of official and private R&D&I projects related to food safety and sustainability.

In general, the most demanded functionalities in which we can collaborate are in the development and manufacturing of functional and barrier coatings, to help meet packaging objectives, in terms of:

- Water barrier
- Barrier against fats and oils
- Barrier against mineral oils
- Barriers against odor
- Repulpability, recyclability, reworkability
- Hot sealing
- Heat resistance
- Absence of blocking
- Etc

Contact us through our contact form, to provide you with an adequate advice and our team will contact you as soon as possible.