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Resins and additives for the coatings industry

Product selection guide

 **BASF**
We create chemistry



Smart raw materials – more sustainable formulations

In addition to a broad range of high-performance colorants, BASF offers an extensive range of binders, crosslinkers, performance, and formulation additives. These do not only add value to the performance of your specific coating's formulation. They have furthermore been systematically reviewed and evaluated with our Sustainable Solution Steering method, which allows us to assess the sustainability performance of each of our products in its specific application. We create chemistry that makes performance love sustainable solutions.

For industrial coatings, but also for applications in automotive and furniture and floor coatings, we identified efficiency, durability, and the reduction of emissions to be among the key drivers for more sustainable formulations. Products that contribute substantially to these drivers along the value chain have been classified as Sustainability Accelerators.

This detailed portfolio analysis and externally assured method to classify our products according to their contribution to sustainability allow us to offer you the solutions you need. Let's take a joint look at your specific requirements and find out how we can further improve both your, as well as our, sustainability profile!

Learn more about BASF's commitment to driving sustainable solutions at: www.basf.com/sustainability

Reducing emissions

Laromer® UP 9096, our UV-curable resin for high-gloss wooden surfaces, is one example of a large number of alternatives to solvent-based products. Other examples are the water-soluble light stabilizer Tinuvin® DW range; highly efficient, low VOC dispersing agents like Dispex® Ultra PX 4575/4585; or Basonat® crosslinkers for water-based and high solid 2K PU coatings.

Extending coatings' life spans

Tinuvin® 249 is our new non-basic hindered amine light stabilizer (HALS) for robust coatings. Its improved compatibility with polar systems and its low viscosity and color number allow for a wide spectrum of applications and simplify handling in production. Our Tinuvin® 5333 DW light stabilizer for joinery and decorative coatings prevents cracks and haze formation of water-based coatings during weathering. Slip and leveling agents like Efka® SL 3299 improve mar resistance, while resins like Basonol® HPE improve hardness and chemical resistance.

Our comprehensive portfolio

| Product class | Product | Application |
|---|---------------------------------------|--|
| Acrylic resins, solvent-based | | |
| Thermoplastic | Acronal® L Acronal® F | Lightfast and aging-resistant soft resins for plasticizing cellulose nitrate and chlorinated binders for the production of films with a high degree of flexibility and excellent adhesive strength; flow promoters for solvent-based and powder coatings |
| OH-functional | Joncryl® | Acrylic polyols to be crosslinked with melamine resins or polyisocyanates for solvent-based coatings; the portfolio comprises a Tg range of -63 °C to 80 °C |
| Hyperbranched polyesterols | | |
| | Basonol® HPE | For use as co-binder in solvent-based 1 K and 2 K PU coatings applications; improves drying properties at extended pot-life; improved final hardness and chemical resistance; excellent weathering stability; low impact on VOC, especially in high solid coatings |
| Natural oil-based polyols | | |
| | Sovermol® | Solvent-free polyols for 2K PU coating application, showing excellent hydrophobic properties, hydrolysis stability, chemical resistance and UV / weathering stability; combination with solvent-based acrylic binders (Joncryl® Polyol) possible for VOC reduction |
| Acrylic dispersions | | |
| Physical drying, self-crosslinking or OH-functional | Acronal® PRO Joncryl® Luhydran® | Binders for water-based anticorrosion coatings, binders for water-based coatings for wood, plastics and furniture films and for baking finishes |
| Polyisocyanates | | |
| | Basonat® | In combination with binders containing hydroxyl groups; crosslinkers in two-component PUR coatings |
| (Co-) Crosslinkers | | |
| For stoving coatings | Larotact® | Low molecular mass crosslinker for stoving coatings that combines melamine and urethane chemistry; increases surface hardness and shows excellent hardness / elasticity behavior |
| Amino resins | | |
| Melamine-formaldehyde and benzoguanamine resins | Luwipal® | Crosslinkers for solvent-based, water-based, and high solid baking finishes in combination with binders containing hydroxyl groups |
| Urea-formaldehyde resins | Plastopal® | Elasticized and non-elasticized crosslinkers for acid-curing coatings and baking finishes in combination with alkyd, polyester, and cellulose nitrate resins |
| Vinyl chloride copolymers | | |
| | Laroflex® | For alkali-resistant and acid-resistant, lightfast, and weather-resistant anticorrosion coatings and paints for mineral substrates; binders for the production of gravure inks for pretreated polyolefin films |
| Aldehyde resins | | |
| | Laropal® | Grinding resins for solvent-based and water-based universal pigment pastes; lightfast resins with a wide solubility and compatibility spectrum; Laropal® A for finishes based on alkyd resins, cellulose nitrate, Laroflex® and chlorinated rubber |

| Product class | Product | Application |
|---|-----------------------------------|--|
| Polyvinyl ethers | | |
| | Lutonal® | Soft resins to be combined with cellulose nitrate, Laroflex® and other binders; use as co-binders in antifouling paints |
| Polyamines | | |
| | Laromin® | Polyfunctional crosslinkers for epoxy resins curing (100% and solvent-based systems) |
| Water-based hardeners and epoxy emulsions | | |
| | Waterpoxy® | Water-based epoxy system for 2K primer and topcoat application: visible end of pot life, low shrinkage, rapid re-coatable, and sandable, good pigment wetting and corrosion resistance |
| Products for radiation curing | | |
| Acrylates, monomers | Laromer® | Binders and reactive diluents for coatings cured by UV or electron beams |
| Photoinitiators | Irgacure® | UV initiators for radical and cationic polymerization |
| Light stabilizers | | |
| UV absorber, hindered amine light stabilizer | Tinuvin® | Light-stabilizing additives for water-based, solvent-based, UV, and powder coatings |
| UV absorber | Chimassorb® | Light-stabilizing additives for solvent-based coatings |
| Lignin stabilizer | Lignostab® | For direct use in wood impregnation to provide excellent long-term stability |
| Antioxidants | | |
| Sterically hindered phenolics thioethers phosphites | Irganox® Irgafos® | Protect resins from thermally induced degradation during processing, production, and high-temperature application |
| Biocides | | |
| Antimicrobials algaecides | Irgaguard® Irgarol® | Organic and inorganic antimicrobials and algaecides for use in hygienic and decorative as well as marine antifouling coatings |
| Dispersing agents | | |
| Poly(urethane) types poly(acrylate) types benchmark range of controlled free-radical polymers (CFRP) | Dispex® Dispex® Ultra Efka® | High-molecular-weight dispersing agents with pendant anchoring groups to support pigment dispersing processes; suitable for organic and inorganic pigments |
| Wetting agents and surface modifiers | | |
| Polysiloxanes-based reactive polysiloxanes silicone-free products | Efka® Hydropalat® | Remove flow disturbance such as orange peel and other undesirable coating characteristics |
| Defoamers | | |
| Polysiloxanes-based polymer-based products | Efka® Foamaster® FoamStar® | Inhibit or reduce the build-up of foam (defoamer) or trapped air (deaerator) |
| Rheology modifiers | | |
| (Hydrophobically modified) alkali-swellable emulsions (HASE / ASE), hydrophobically modified ethoxylated urethane (HEUR), (modified) hydrogenated castor oils | Efka® Rheovis® | Give the required balance of application properties such as container viscosity, application viscosity, anti-setting properties, spatter resistance, as well as flow and leveling properties |

Preferred applications

□ Potentially suited ■ Suited ■■ Best suited

| | Acronal® L+ F | Acronal® PRO | Basonat® | Basonol® HPE | Dispex®/Dispex® Ultra/Elka®/Foamaster®/FoamStar®/Hydropatat®/Rheovis® | Irgacure®/Laromer® | Irganox®/Irganox® | Irgaguard®/Irgarol® | Joncryl® dispersions | Joncryl® polyols | Laroflex® | Laromin® | Laropal® | Larotact® | Lulhydran® | Lutonal® | Luwipal® | Plastopal® | Sovermol® | Tinuvin®/Chimasorb®/Lignostab® | Waterpoxy® | |
|---|---------------|--------------|----------|--------------|---|--------------------|-------------------|---------------------|----------------------|------------------|-----------|----------|----------|-----------|------------|----------|----------|------------|-----------|--------------------------------|------------|---|
| Automotive & transportation coatings | | | | | | | | | | | | | | | | | | | | | | |
| Automotive OEM | □ | - | ■ | ■ | ■ | □ | □ | - | ■ | □ | - | - | □ | ■ | ■ | - | ■ | - | ■ | ■ | - | |
| Automotive refinish | ■ | - | ■ | ■ | ■ | ■ | - | - | - | ■ | - | - | ■ | - | - | - | - | - | - | ■ | ■ | - |
| Car parts | ■ | - | ■ | ■ | ■ | ■ | - | - | ■ | ■ | - | - | ■ | □ | ■ | - | ■ | ■ | ■ | ■ | ■ | - |
| Aerospace | - | - | ■ | ■ | ■ | - | - | - | □ | ■ | - | - | □ | - | □ | - | - | - | - | ■ | ■ | - |
| Transportation | ■ | ■ | ■ | ■ | ■ | ■ | - | - | ■ | ■ | □ | - | ■ | ■ | ■ | - | ■ | ■ | ■ | ■ | ■ | □ |
| Industrial coatings | | | | | | | | | | | | | | | | | | | | | | |
| Marine | ■ | - | ■ | ■ | ■ | - | - | ■ | - | ■ | ■ | ■ | ■ | - | - | ■ | - | - | □ | ■ | ■ | - |
| Protective/maintenance | ■ | ■ | ■ | ■ | ■ | - | - | - | ■ | ■ | ■ | ■ | ■ | ■ | ■ | - | ■ | - | ■ | ■ | ■ | ■ |
| Wind power | - | - | ■ | ■ | ■ | - | - | - | □ | ■ | ■ | - | ■ | - | □ | - | - | - | - | ■ | ■ | □ |
| Container | ■ | ■ | ■ | ■ | ■ | - | - | - | ■ | ■ | ■ | ■ | ■ | - | ■ | - | - | - | - | - | ■ | ■ |
| Coil coatings | ■ | - | - | ■ | ■ | ■ | ■ | - | □ | - | - | - | - | □ | □ | - | ■ | ■ | - | ■ | ■ | - |
| Can/packaging coatings | ■ | - | - | - | ■ | - | - | - | ■ | - | - | - | - | - | - | - | ■ | ■ | - | - | - | - |
| Plastic coatings | □ | - | ■ | ■ | ■ | ■ | - | - | ■ | ■ | - | - | ■ | - | ■ | - | - | - | - | ■ | ■ | - |
| ACE | - | ■ | ■ | ■ | ■ | - | - | - | ■ | ■ | - | - | ■ | □ | ■ | - | ■ | - | - | ■ | ■ | □ |
| Powder | ■ | - | - | - | - | - | ■ | - | - | - | - | ■ | ■ | - | - | - | - | - | - | - | ■ | - |
| Furniture & floor coatings | | | | | | | | | | | | | | | | | | | | | | |
| Furniture | - | - | ■ | - | ■ | ■ | - | - | ■ | ■ | - | - | ■ | - | ■ | - | ■ | ■ | - | ■ | - | - |
| Flooring | - | - | ■ | - | ■ | ■ | - | - | ■ | ■ | - | - | ■ | - | - | - | ■ | ■ | ■ | ■ | ■ | ■ |
| Joinery | - | - | ■ | - | ■ | ■ | - | - | ■ | - | - | - | □ | - | - | - | ■ | - | - | - | ■ | - |

Given the large number of products in our range, it is difficult to show all the possible application areas in a schematic overview. Please get in touch to learn more about our comprehensive portfolio.

