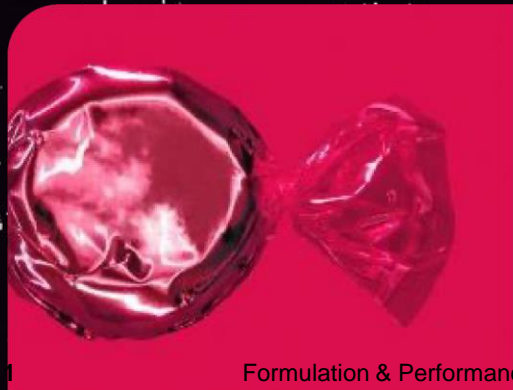


**□ - BASF**

We create chemistry

# Powering Up Your Formulations

with Performance and Formulation Additives for  
**PRINTING & PACKAGING**



Formulation & Performance Additives for Printing & Packaging

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# Our large portfolio enables solutions for various industries

## Formulation Additives



Dispersing Agents



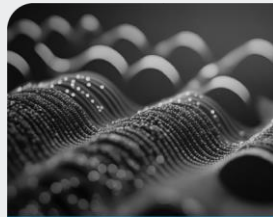
Defoamers



Rheology Modifiers



Wetting Agents & Surface Modifiers

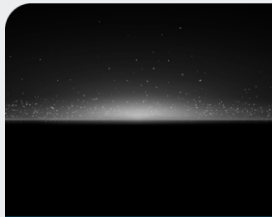


Film-forming Agents

## Performance Additives



UV Absorbers



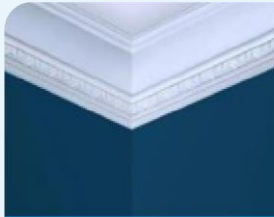
Radical Scavengers



Antioxidants



BASF is the premiere provider of **Performance & Formulation Additives** for the paints and coatings industry



Architectural Coatings



Industrial Coatings



Automotive Coatings



Furniture & Flooring



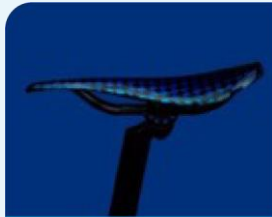
Adhesives



Construction



Printing & Packaging



Composites

# Carbon Management: BASF's path to climate neutrality in 2050

## CO<sub>2</sub> reduction



- Reduce the emissions along the value chain
- Derive the PCFs of our products

## The Biomass Balance Approach



- Enables carbon footprint reductions
- Without compromising the product's final properties

## Sustainable Transport Solutions



- Gaining transparency on transport emissions
- Working with suppliers to achieve measurable improvements

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# Sustainability Differentiation – Printing & Packaging

	Dispersing Agents	Defoamers	Rheology Modifiers	Wetting Agents and Surface Modifiers	Film-forming Agents	Light Stabilizers
Food Contact*	<p>Efka® PX 4701 Efka® PX 4703 Dispex® Ultra FA 4437 Dispex® Ultra FA 4480 Dispex® Ultra PX 4290 Dispex® Ultra PX 4522 Dispex® Ultra PX 4585 Hydropalat® WE 3966</p>	<p>Foamaster® NO 2306 FoamStar® SI 2210 FoamStar® SI 2213 FoamStar® SI 2217 FoamStar® SI 2240</p>	<p>Rheovis® AS 1125 Rheovis® AS 1127 Rheovis® AS 1130 Rheovis® HS 1303 EB Rheovis® PE 1330 Rheovis® PU 1235 EC</p>	<p>Efka® SL 3210 Efka® SL 3258 Efka® SL 3259 Hydropalat® WE 3130 Hydropalat® WE 3197 Hydropalat® WE 3220 Hydropalat® WE 3475 Hydropalat® WE 3477 Hydropalat® WE 3650</p>	<p>Efka® PL 5381 Efka® PL 5382 Efka® PL 5643 Efka® PL 5646 Loxanol® CA 5140 EM</p>	
Efficiency	<p>Efka® PX 4350 Efka® PX 4701 Efka® PX 4703 Efka® PX 4733 Dispex® Ultra PX 4290 Dispex® Ultra PX 4575 Dispex® Ultra PX 4585 Hydropalat® WE 3966</p>	<p>FoamStar® SI 2210 FoamStar® SI 2240</p>	<p>Rheovis® AS 1130 Rheovis® PU 1331 Rheovis® PU 1235 EC Rheovis® HS 1303 EB</p>	<p>Efka® SL 3210 Efka® SL 3259 Efka® SL 3299 Hydropalat® WE 3130 Hydropalat® WE 3197</p>	<p>Loxanol® MI 6730</p>	<p>Tinuvin® 400 Tinuvin® 479 Tinuvin® 152</p>
Renewables	<p>Dispex® Ultra FA 4437 Dispex® Ultra FA 4480</p>	<p>Efka® PB 2770 Foamaster® NO 2306 Foamaster® NO 2331 FoamStar® SI 2210 FoamStar® SI 2217</p>	<p>Efka® RM 1900 Efka® RM 1920 Rheovis® AS 1127</p>	<p>Efka® SL 3258 Hydropalat® WE 3120 Hydropalat® WE 3130</p>	<p>Efka® PL 5381 Efka® PL 5382 Loxanol® CA 5140 EM</p>	<p>Tinuvin® 292 Tinuvin® 123</p>
Enables water-based	<p>Dispex® Ultra CX 4452 Dispex® Ultra PX 4290 Dispex® Ultra PX 4522 Dispex® Ultra PX 4575 Dispex® Ultra PX 4585 Hydropalat® WE 3966</p>	<p>FoamStar® SI 2210 FoamStar® SI 2213 FoamStar® SI 2217 FoamStar® SI 2240</p>	<p>Rheovis® AS 1125 Rheovis® AS 1130 Rheovis® HS 1303 EB Rheovis® PE 1330 Rheovis® PU 1235 EC</p>	<p>Hydropalat® WE 3130 Hydropalat® WE 3197 Hydropalat® WE 3221 Hydropalat® WE 3229 Hydropalat® WE 3475 Hydropalat® WE 3650</p>	<p>Loxanol® MI 6730</p>	<p>Tinuvin® DW ECO</p>
Enables 100% systems	<p>Efka® FA 4611 Efka® PX 4701 Efka® PX 4703 Efka® PX 4733 Efka® PX 4780</p>	<p>Efka® PB 2770 Foamaster® NO 2306</p>		<p>Efka® FL 3750 Efka® SL 3210 Efka® SL 3230 Efka® SL 3258 Efka® SL 3259 Efka® SL 3299 Hydropalat® WE 3220</p>		<p>Tinuvin® 479 Tinuvin® 152</p>

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# Focus products for Printing & Packaging

	Dispersing Agents		Defoamers	Rheology Modifiers	Wetting Agents & Surface Modifiers		Film-forming Agents	Light Stabilizers				Antioxidants
	High molecular weight	Low molecular weight			UVA*	HALS*		DW*	Blends			
<b>Water-based</b>	<b>Dispex®</b> AA 4040 AA 4140 <b>Dispex® Ultra</b> CX 4452 PA 4560 PA 4590 PX 4290 PX 4522 PX 4575 PX 4585	<b>Dispex® Ultra</b> FA 4437 FA 4480 FA 4483	<b>Foamaster®</b> NO 2306 NO 2331 WO 2310 <b>FoamStar®</b> ED 2522 SI 2210 SI 2213 SI 2217 SI 2240 SI 2250 SI 2292	<b>Rheovis®</b> AS 1125 AS 1130 HS 1169 HS 1212 HS 1303 EB PE 1330 PU 1214 EC PU 1235 EC PU 1291 PU 1331	<b>Hydropalat®</b> SL 3683 WE 3120 WE 3130 WE 3197 WE 3220 WE 3221 WE 3229 WE 3323 WE 3475 WE 3477 WE 3650 WE 3966	<b>Efka®</b> SL 3210 SL 3258 SL 3299				<b>Tinuvin®</b> 123-DW(N) 400-DW(N) 5333-DW(N) 9945-DW(N) 479-DW		
<b>Solvent-based/ Solvent-free/ UV systems</b>	<b>Efka®</b> PU 4009 PU 4063 PA 4404 PX 4300 PX 4320 PX 4330 PX 4350 PX 4701 PX 4703 PX 4733 PX 4780	<b>Dispex® Ultra</b> FA 4431 <b>Efka®</b> FA 4609 FA 4611	<b>Efka®</b> PB 2744 PB 2770 <b>Foamaster®</b> NO 2306	<b>Efka®</b> RM 1900 RM 1920	<b>Efka®</b> FL 3740 EH FL 3741 FL 3750 SL 3210 SL 3230 SL 3258 SL 3259 SL 3299 <b>Hydropalat®</b> WE 3220 WE 3229		<b>Efka®</b> PL 5381 PL 5382 PL 5643 PL 5646 PL 5688	<b>Tinuvin®</b> 100 479 1130	<b>Tinuvin®</b> 100 479 1130		<b>Irganox®</b> 1010/1010 FF 1076 1135 1139 <b>Irgastab®</b> UV 22	

New products



# Printing & Packaging applications



- Flexographic printing
- Gravure Printing
- Ink-Jet
- Screen printing
- Lithographic / Offset



## Flexible packaging

Inks, primers and varnishes for a broad range of plastic substrates for different applications (e.g. shrink sleeves, sandwich structures, etc.) being UV- and water-based systems



## Overprint varnishes

Water-based and UV-based Overprint varnishes are used for ink protection with regards to rub resistance but also for esthetic reasons (e.g. gloss/matt effects)



## Corrugated paper and board

Water-based inks for different purpose – Resin-based and resin-free.



## Solvent-based inks

Packaging for paper and board as well as for film printing for higher sophisticated applications like sterilization etc.



## UV ink systems

UV -systems are used mostly in areas where resistance, gloss, appearance is required. One possibility to move away from solvent –based systems

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# Printing & Packaging trends -

Digital printing, improve sustainability profile, conversion to water-based and UV

## Printing & Packaging trends

Digital printing –  
ink-jet the future market



Improved sustainability  
(regulatory, low VOC, CO2)



Conversion from solvent-based to 100% or water-based systems



## BASF Highlight Products

Defoamers

Dispersing Agents

Wetting Agents & Surface Modifiers

Rheology Modifiers

Antioxidants

**Dispex® Ultra**

PX 4290

PX 4575

PX 4585

**Efka® PX 4701 / 4703**

**Efka®**

FL 3750

SL 3259

**Hydropalat®**

WE 3220

**Rheovis®**

PE 1330

**Efka® PB 2770**

**Foamaster® NO 2331**

**FoamStar®**

SI 2217

SI 2240

**Dispex® Ultra**

PX 4290

PX 4585

**Efka® PX 4701 / 4703**

**Efka®**

SL 3259

**Hydropalat® WE**

3220

**Rheovis® PU**

1235 EC

**Efka® PB 2770**

**Foamaster® NO 2331**

**FoamStar® SI 2240**

**Dispex® Ultra PX**

4290

4585

**Efka® PX 4701/ 4703**

**Efka®**

FL 3750

SL 3259

**Hydropalat®**

WE 3220

**Rheovis® PE**

1330

**Irgastab®**

UV 22

# Highlight Products (1 of 2)

incl. latest launches



## Efka® PB 2770

Solvent- and silicone-free deairator for UV-based systems in industrial coatings, furniture & floorings



## FoamStar® SI 2240

Highly-efficient defoamer with broad food contact compliance for water-based systems



## Dispex® Ultra PX 4290

Dispersing agent for organic and inorganic pigments with outstanding color strength and excellent viscosity reduction



## Loxanol® MI 6730

Adhesion promoter for film and foil

# Highlight Products (2 of 2)

incl. latest launches



## Efka® FA 4611

Solvent-free dispersing agent for inorganic pigments in 100% systems, solvent-based coatings and UV-based printing inks



## Efka® PX 4701 | PX 4733

High-molecular-weight dispersing agents for high-performance inkjet and flexographic ink



## Efka® PX 4780

Innovative reactive, high performance dispersing agent for 100% systems

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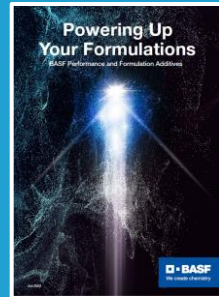
# Summary

- **BASF offers a full range of Formulation Additives and Performance Additives for Printing & Packaging**
- We make today's challenge tomorrow's solution meeting emerging Printing & Packaging trends
  - **Digitalization** – following the market trend towards ink-jet printing
  - Improved **Sustainability** – e.g. Food Contact Compliance
  - **Conversion** from solvent- to water-based or 100% systems
- Our **sustainable portfolio for Printing & Packaging** is ready to Power Up your formulations and pushing to the next level of the green transformation towards sustainable growth
- **BASF's Lab Assistant** – powerful digital tool that enables you to find the best raw materials for your specific needs



# BASF Formulation and Performance Additives

## Powering Up Your Formulations with cutting-edge expertise



### Global Product Catalogue

The comprehensive global catalogue featuring BASF Performance and Formulation Additives products.



### Designed to simplify your lab life.

– Explore. Formulate. Collaborate.

BASF Lab Assistant is a web-based application that makes it easier for you to learn more about **Performance and Formulation Additives**.



Lab Assistant



### Sustainability Presentation

With our sustainable measures and our renewable additives portfolio we are ready to Power Up your transformation towards sustainable growth.

### Industry Presentation

Dedicated solution for specialized industry:

- Architecture
- Automotive
- Industrial
- Furniture & Flooring
- Printing & Packaging







We create chemistry

# Disclaimer

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- **Safety**

When handling the mentioned products, please comply with the advice and information given in the safety data sheets and observe protective and workplace hygiene measures adequate for handling chemicals.

- **Note**

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our products, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. The agreed contractual quality of the product results exclusively from the statements made in the product specification. It is the responsibility of the recipient of our product to ensure that any proprietary rights and existing laws and legislation are observed.