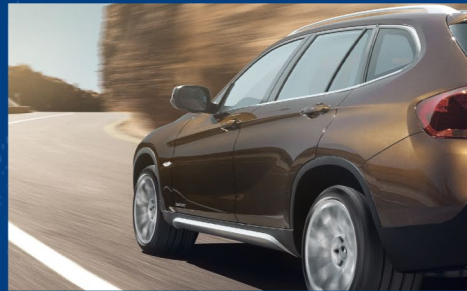




Powering Up Your Formulations

Performance & Formulation Additives for
Automotive Coatings



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- 2 Sustainability Product Recommendations
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Our large portfolio enables solutions for various industries

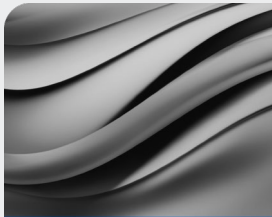
Formulation Additives



Dispersing Agents



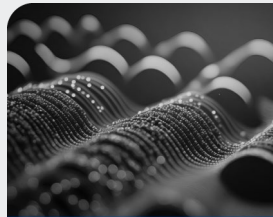
Defoamers



Rheology Modifiers

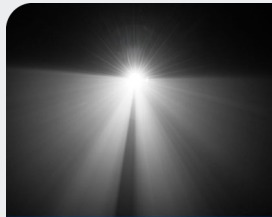


Wetting Agents & Surface modifiers

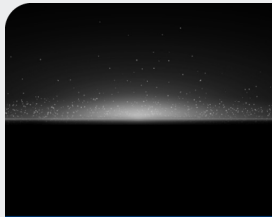


Film-forming Agents

Performance Additives



UV Absorbers
BTZ & HPT



Radical Scavengers



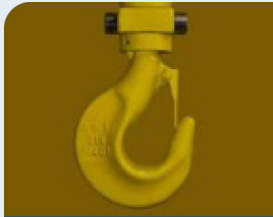
Antioxidants



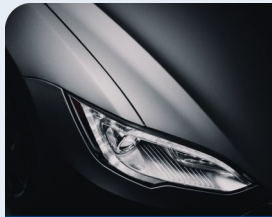
BASF is the premiere provider of **Performance & Formulation Additives** for the paints and coatings industry



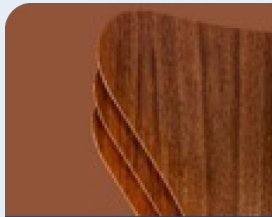
Architectural Coatings



Industrial Coatings



Automotive Coatings



Furniture & Flooring



Adhesives



Construction



Printing & Packaging



Composites

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

CO₂ reduction



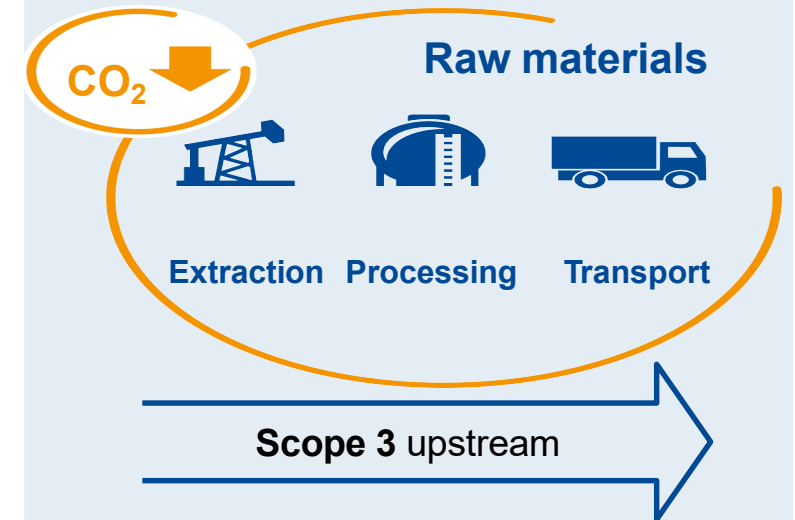
- Reduce the emissions along the value chain
- Derive the PCFs of our products

The Biomass Balance Approach



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

Supplier CO₂ Management



- Sourcing low PCF raw material
- Working with suppliers to achieve measurable improvements

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Sustainability Differentiation – Automotive Coatings

	Dispersing Agents	Defoamers	Rheology Modifiers	Wetting Agents and Surface Modifiers	Performance Additives
 Enables water-based	Dispex® Ultra PA 4550 Dispex® Ultra PX 4290 Dispex® Ultra PX 4565 Dispex® Ultra PX 4575 Dispex® Ultra PX 4585 Dispex® Ultra CX 4452	FoamStar® MO 2134 FoamStar® MO 2111 FoamStar® SI 2281 FoamStar® SI 2299 FoamStar® ST 2400 FoamStar® ST 2454 FoamStar® ST 2438	Rheovis® AS 1130 Rheovis® HS 1153 Rheovis® PU 1193	Hydropalat® FL 3635 Hydropalat® WE 3120 Hydropalat® WE 3221 Hydropalat® WE 3229 Hydropalat® WE 3650 Efka® FL 3782	Tinuvin® 400-DW ECO Tinuvin® 479-DW ECO Tinuvin® 123-DW ECO Irganox® 1010-DW ECO
 Enables 100% systems	Efka® PX 4310 Efka® PX 4320 Efka® PX 4330 Efka® PX 4350 Efka® PX 4733 Efka® PX 4780 Efka® PX 4787	Efka® PB 2770	Efka® RM 1410 Efka® RM 1469 Efka® RM 1920	Efka® FL 3740 Efka® FL 3745 Efka® FL 3287 Hydropalat® WE 3220	Tinuvin® 405 Tinuvin® 292 Tinuvin® 292 HP Tinuvin® 123 Tinuvin® 152 Tinuvin® 5071
 Efficiency	Efka® PX 4310 Efka® PX 4350 Efka® PX 4787 Dispex® Ultra CX 4452 Dispex® Ultra PA 4550 Dispex® Ultra PX 4585	FoamStar® ST 2438 FoamStar® SI 2281	Rheovis® AS 1130 Efka® RM 1410	Efka® FL 3740 Efka® FL 3745 Efka® FL 3755 Efka® FL 3782 Efka® FL 3287 Hydropalat® WE 3229	Tinuvin® 400 Tinuvin® 479 Tinuvin® Carboprotect Tinuvin® 123 Tinuvin® 152 Tinuvin® 5071
 Renewables		Efka® PB 2770	Efka® RM 1900 Efka® RM 1920	Hydropalat® WE 3120	Tinuvin® 123 Tinuvin® 292 Tinuvin® 292 HP

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Product Portfolio for Automotive Coatings

	Dispersing Agents		Defoamers	Rheology Modifiers	Wetting Agents & Surface Modifiers	Miscellaneous	Light Stabilizers			
	High molecular weight	Low molecular weight					UVA	HALS	DW	Blends
Water-based	Dispex® Ultra PA 4550 PX 4565 PX 4575 PX 4585 PX 4290 PX 4275 CX 4452	Dispex® Ultra FA 4416 FA 4437	FoamStar® MO 2134 MO 2111 SI 2281 SI 2299 ST 2400 ST 2454 ST 2438	Rheovis® AS 1130 HS 1153 PU 1193 Attagel 50	Hydropalat® WE 3120 WE 3220 WE 3221 WE 3229 WE 3650 FL 3635 Efka® FL 3782	Loxanol® / Efka® Loxanol PL 5830 Efka PL 5651			Tinuvin® 400-DW ECO 479-DW ECO 123-DW ECO Irganox® 1010-DW ECO	
	Solvent-based	Efka® PA 4401 PU 4061 PU 4063 PX 4310 PX 4320/ 4321 PX 4330 PX 4350 PX 4360 PX 4753 PX 4780 PX 4787	Efka® FA 4611	Efka® SI 2723 PB 2770	Efka® RM 1469 RM 1920 RM 1410	Efka® FL 3740 FL 3745 FL 3755 SL 3288 SL 3030 SL 3035 SL 3236 FL 3782 FL 3287	Efka® Efka IO 6779 Efka IO 6782	Tinuvin® 384-2 400 479 1130 Carboprotect	Tinuvin® 123 152 292 292 HP	Tinuvin® 5071

New product

Automotive Coatings Segments & BASF portfolio

Market segments



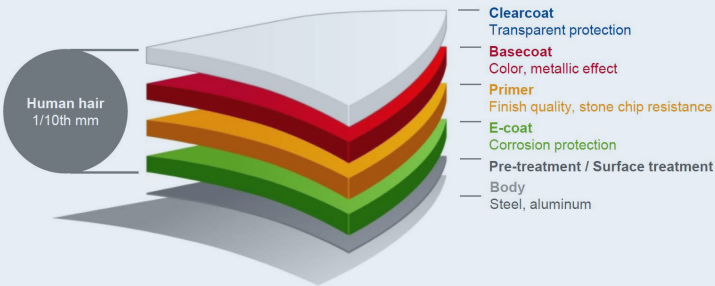
OEM coating



Car part coating
Interior & exterior



Refinish coating



BASF Highlight Products

Defoamers

- FoamStar® ST 2400
- FoamStar® ST 2454
- FoamStar® MO 2111

Dispersing Agents

- Dispex® Ultra PX 4585
- Dispex® Ultra PA 4550
- Efka® PX 4310
- Efka® PX 4787

Wetting Agents & Surface Modifiers

- Hydropalat® WE 3229
- Efka® FL 3287
- Efka® FL 3782
- Efka® FL 3755

Rheology Modifiers

- Rheovis® AS 1130
- Rheovis® RM 1410

UV Absorbers

- Tinuvin® 384-2
- Tinuvin® 400
- Tinuvin® 400-DW ECO
- Tinuvin® 479-DW ECO

HALS

- Tinuvin® 123-DW ECO
- Tinuvin® 123
- Tinuvin® 152

Antioxidants

- Irganox® 1010-DW ECO

Blends

- Tinuvin® 5071

Automotive Coatings Trends

Film properties improvement, process innovation, sustainability

Technology trends

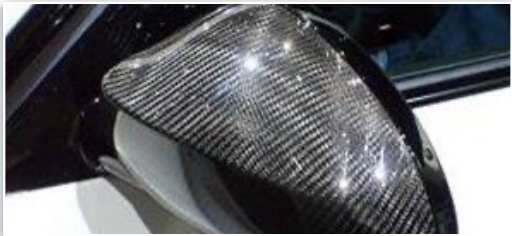
Improve film properties

- Higher chroma & flip-flop
- Optimal appearance & high durability
- New functionalities



Process innovation and efficiency

- Improve application robustness
- Spray dust free application
- In mold coating



Sustainability

- High solid, low VOC
- Low bake
- Shorter process



Defoamers *Dispersing Agents* *Wetting Agents & Surface Modifiers* *Rheology Modifiers* *Light Stabilizers*

	<p>Dispex® Ultra FA 4437 Ultra PX 4585</p> <p>Efka® PX 4310 PX 4787</p>	<p>Hydropalat® WE 3229</p> <p>Efka® FL 3782 FL 3287 FL 3755</p>	<p>Rheovis® AS 1130 HS 1153 PU 1193</p>	<p>Tinuvin® 400 479 152 DW ECO</p>
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<p>FoamStar® ST 2400 ST 2454</p>	<p>Dispex® Ultra PX 4585</p> <p>Efka® PX 4310 PX 4787</p>	<p>Hydropalat® FL 3635 WE 3229</p> <p>Efka® FL 3782</p>		<p>Tinuvin® Carboprotect</p>
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<p>Efka® PB 2770</p>	<p>Dispex® Ultra PX 4452</p> <p>Efka® PX 4787</p>	<p>Hydropalat® WE 3229</p> <p>Efka® FL 3287 FL 3750</p>		
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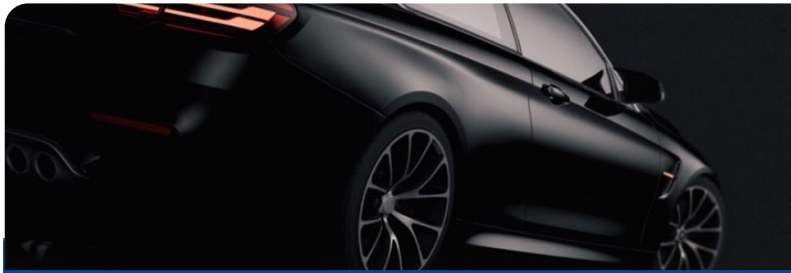
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Highlight Products

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Highlight Products (1/3)



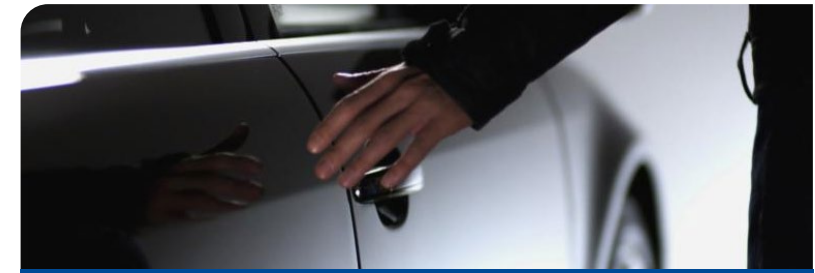
Efka® PX 4310

Market benchmark, high performance dispersant based on **CFRP technology**



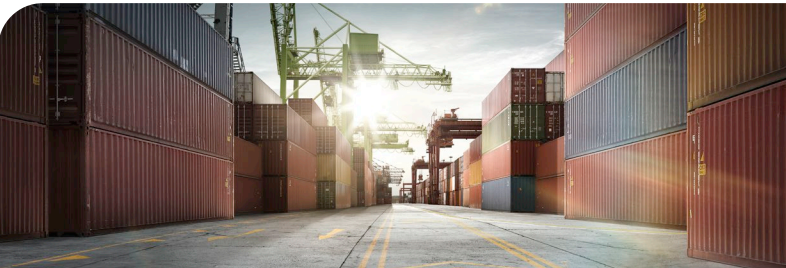
Efka® PX 4780 / 4787

Cross-linkable dispersant with **strong viscosity reduction** in solvent-based systems



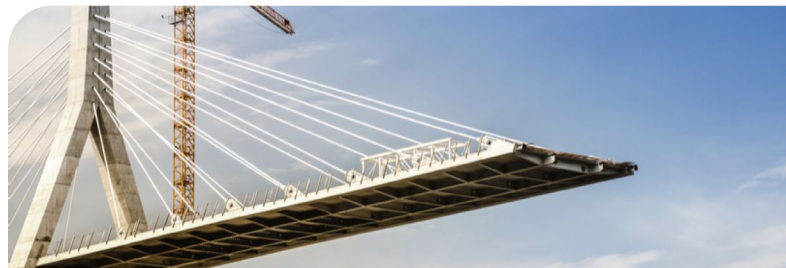
Dispex® Ultra PX 4585

WB dispersant for with **benchmark performance** in carbon black & organic pigments



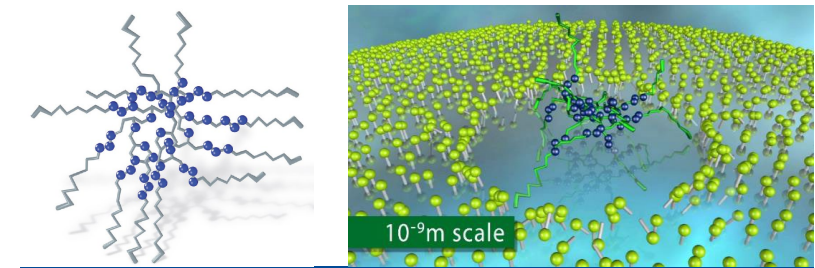
Dispex® Ultra PA 4550

Excellent universal pigment stabilization with **best water resistance**



Dispex® Ultra CX 4452

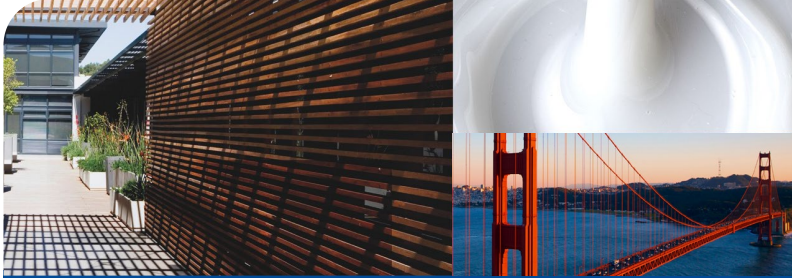
Superior viscosity reduction with inorganic pigments and excellent water resistance



Foamstar® ST 2400

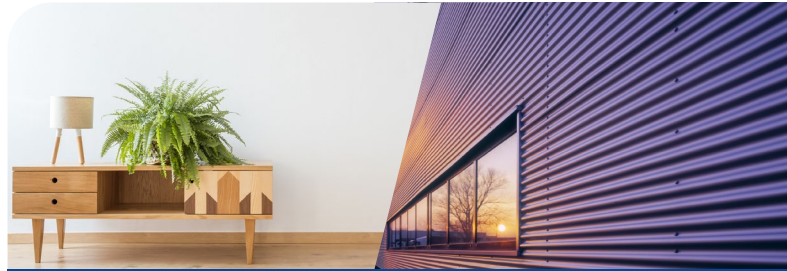
Highly compatible silicone free defoamer with fast bubble break time

Highlight Products (2/3)



Rheovis® PU 1192/1193

Highly efficient, exceedingly pseudoplastic rheology modifiers



Tinuvin® DW ECO

Easy to incorporate light WB light stabilizers to meet VOC and eco-label requirements



Efka® FL 3755

Highly compatible leveling agents for solvent-based and solvent-free coatings



Dispex® Ultra PX 4565

New aqueous high performance dispersing agent for organic pigments and C-blacks with improved value in use



Efka® PX 4360

New high performance dispersing agent for organic pigments and C-blacks with improved value in use



Efka® PX 4321

New dispersing agent suitable for resin-free and resin-containing pigment concentrates. Broad pigment affinity.

Highlight Products (3/3)



Efka® PU 4463

Tin and aromatic solvent free version of Efka® PU 4063



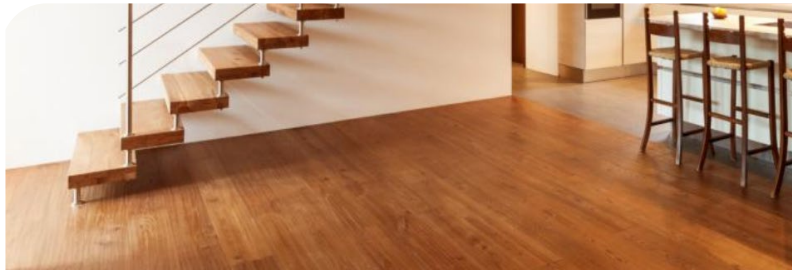
FoamStar® SI 2299

Highly effective deaerator and defoamer for spray coatings



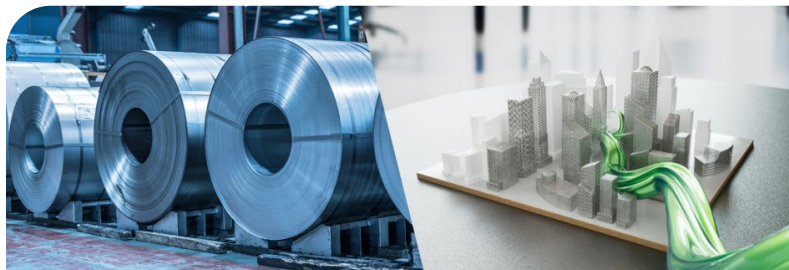
FoamStar® SI 2281

highly compatible and easy to incorporate universal polyether-modified silicone defoamer



Hydropalat® WE 3229

Silicone based wetting agent with pronounced defoaming action



Efka® FL 3287

Silicone-modified Polyacrylate leveling agent with excellent recoatability



Efka® FL 3782

Silicone-modified Polyacrylate leveling agent suitable for water- and solvent-based systems

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Summary

- **BASF offers a full range of Formulation Additives and Performance Additives for Automotive Coatings**
- We make today's challenge tomorrow's solution meeting emerging automotive coating trends
 - **Continuous improvement** in technology & process
 - **New technology**
 - **Sustainability**
- Our **sustainable portfolio for automotive coatings** 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 automotive coatings needs – Explore. Formulate. Collaborate.



BASF Formulation and Performance Additives

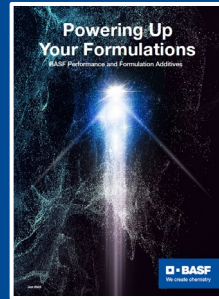
Powering Up Your Formulations with cutting-edge expertise



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**.



Global Product Catalogue

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



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

Industry Presentation Industrial

Online Tool

Explore.
Formulate.
Collaborate.



Do you want to formulate faster?
BASF's Lab Assistant
Designed to simplify your lab life –
Explore. Formulate. Collaborate.



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New for Furniture & Flooring,
Automotive & Industrial,
Printing & Packaging

Disclaimer

- **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.



We create chemistry