

# We will start soon...

To make this call most efficient for everybody, we have **muted** your phones.

For questions, kindly use the **chat function**.

Should you have trouble hearing us, kindly choose “**use computer for audio**”. Should there still be issues, kindly try **reconnecting** to the webinar.

The **presentation** will be **shared** with all participants after the webinar.

Your **hosts** for this call

**Efka® PB 2744 &  
Sovermol® range**

Ultra low VOC  
deaerator for high  
solid and solvent-free  
systems



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# Efka<sup>®</sup> PB 2744 & Sovermol<sup>®</sup> Range

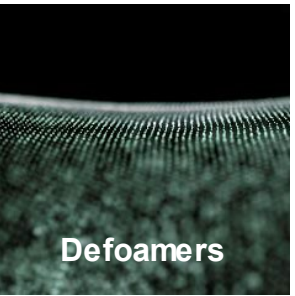
Ultra low VOC deaerator for high solid and solvent-free systems

Ludwigshafen, October 14th, 2020

# Agenda

1. Introduction
2. Performance Highlights Efka<sup>®</sup> PB 2744
3. Introduction of Sovermol<sup>®</sup>
4. Summary

# Our comprehensive portfolio enables solutions for various industries



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



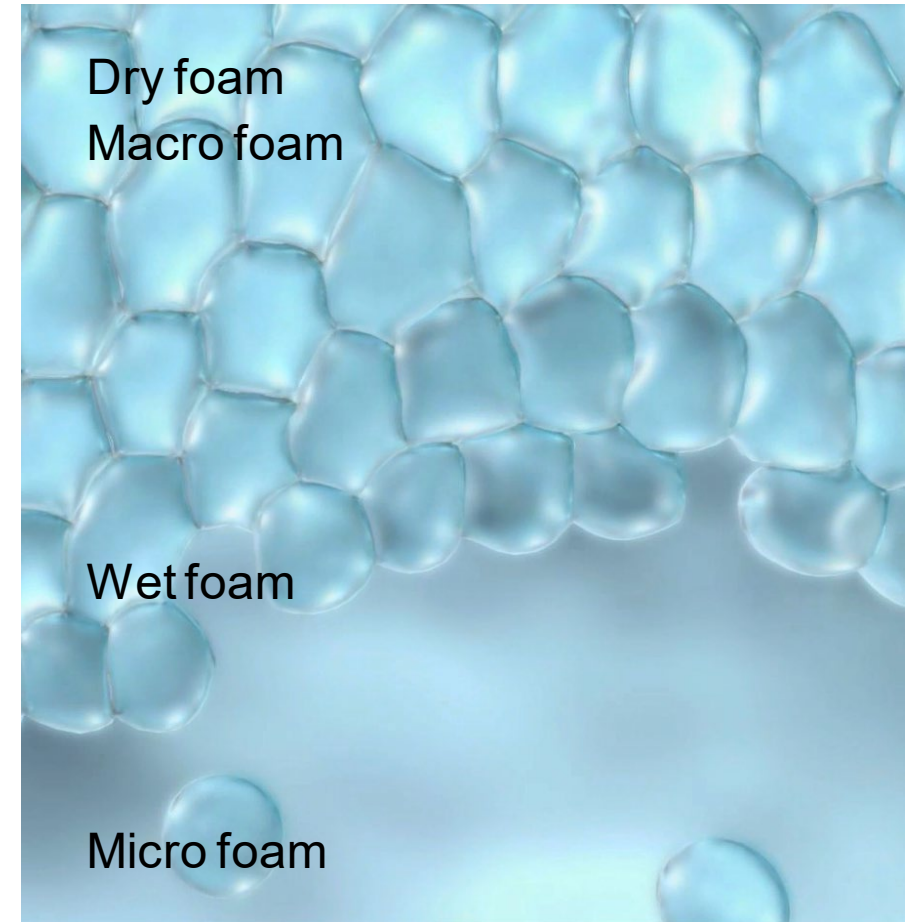
# Strong brands to empower your business

Water-based brands	Application	Solvent-based* brands
Dispex <sup>®</sup> / Dispex <sup>®</sup> Ultra	DISPERSING AGENTS	Efka <sup>®</sup>
Foamaster <sup>®</sup> / FoamStar <sup>®</sup>	DEFOAMERS	Efka <sup>®</sup>
Rheovis <sup>®</sup> (organic) / Attagel <sup>®</sup> (clays)	RHEOLOGY MODIFIERS	Efka <sup>®</sup>
Hydropalat <sup>®</sup>	WETTING AGENTS	Efka <sup>®</sup>
Loxanol <sup>®</sup>	FILM-FORMING AGENTS	Efka <sup>®</sup>
Tinuvin <sup>®</sup> / Lignostab <sup>®</sup>	LIGHT STABILIZIERS	Tinuvin <sup>®</sup> / Chimassorb <sup>®</sup>
Irganox <sup>®</sup>	ANTIOXIDANTS	Irganox <sup>®</sup> / Irgafos <sup>®</sup> / Irgastab <sup>®</sup>

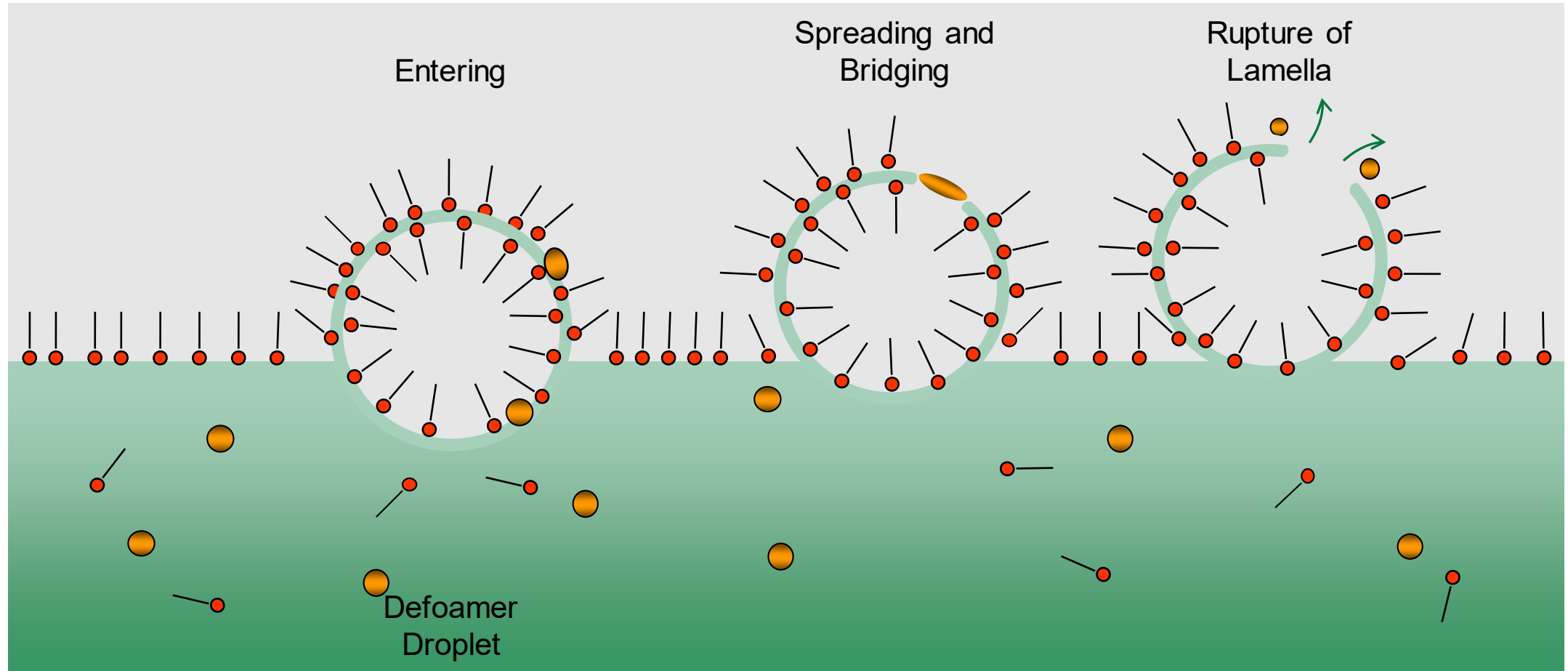
\*Efka<sup>®</sup> includes also High Solids and 100% Solid Systems

# Defoamer nomenclature

- **Defoamers** are surface-active agents which destroy (macro-) foam after it has been formed, as a knock-down effect.
- **Antifoams** are surface active agents which prevent foam formation.
- **De-aerator or air release agents** remove micro-air bubbles from a liquid and help them to rise to the surface.



# Defoamers: How to destroy foam?



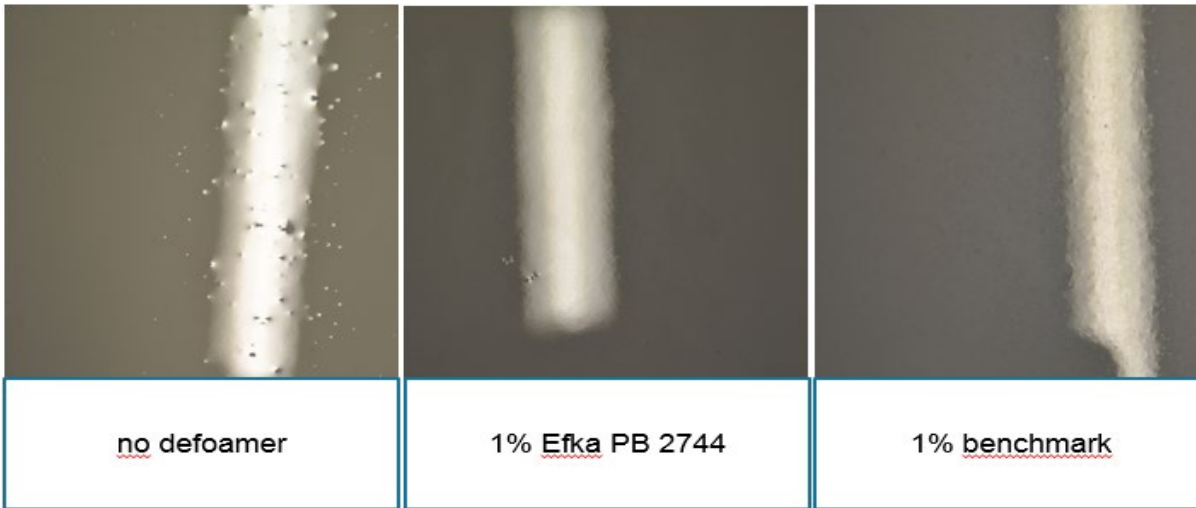


# Defoamer technology overview

Product range		Chemistry	Characteristics
<b>Foamaster®</b>	MO	mineral oil	macro foam, universal
	NO	natural oil	renewable, low S-VOC
	WO	white oil	FDA, better odor, low fogging
<b>FoamStar®</b>	ED	emulsion defoamers	universal, easy to incorporate
	PB	polymer-based	high efficiency, no silicone
	SI	silicone-based defoamers	high gloss, industrial, printing inks
	ST	star polymer-based defoamers	high efficiency, fast foam knock-down
<b>Efka®</b>	PB	polymer-based defoamers	high efficiency, no silicone
	SI	silicone-based defoamers	high efficiency, high gloss

# Efka® PB 2744

Excellent defoamer for fast and effective de-aeration of 100% solid systems



## Application:

Efka® PB 2744 is recommended for high solids and solvent-free systems, e.g. 2-Pack PUR systems for flooring applications. Further application areas are ultra-high solids industrial applications and UV applications.

Efka® PB 2744 is especially designed for industrial flooring compositions which have to comply with latest construction norms (e.g. AgBB).

## Performance highlights:

- Fast and effective deaeration in high solid and solvent-free formulations
- Excellent efficiency
- Improves leveling and imparts surface smoothness
- Excellent long-term persistency
- Ultra low VOC

## Sustainability highlights:

- Ultra low VOC
- Hazard label-free
- Compliant with latest construction norms (e.g. German AgBB)

## Characteristic Values:

Density at 23°C	~ 0.9 g/cm <sup>3</sup>
Viscosity at 23°C	~ 7500 mPa·s

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# Test procedure and test system

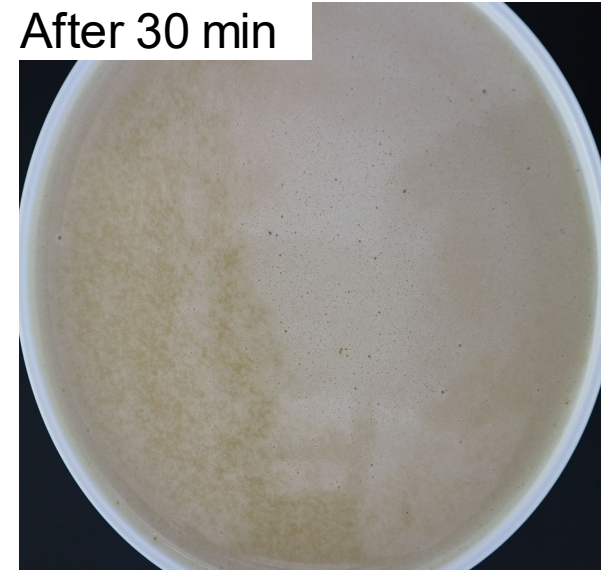
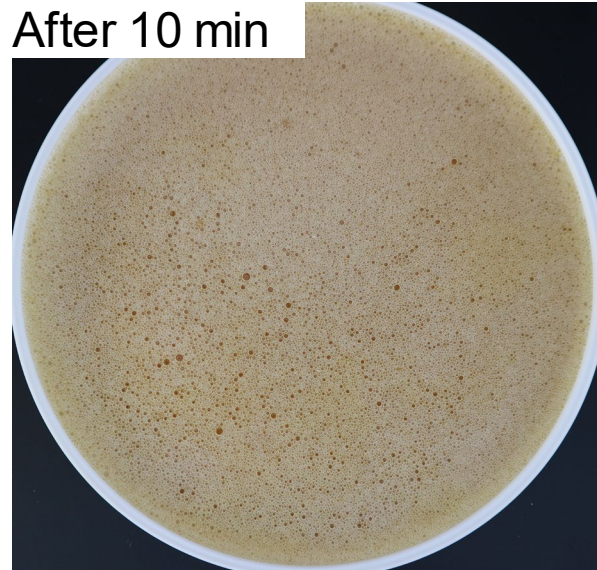
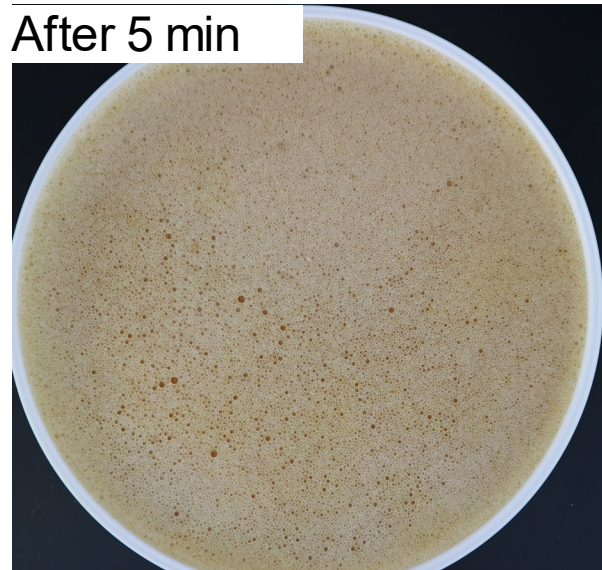
Procedure: Formulation is stirred with a dissolver (e.g. 2 min at 500 rpm). Immediately after stirring, the coating is poured out into a lid. Afterwards pictures will be made during the hardening process, to report the defoaming/deaeration.



## Self-leveling-flooring

Sovermol 1092	82
Moleculare sieve	18
Defoamer	0.6
Dispex Ultra FA 4437	0.5
Crosslinking	
Lupranat M20S	60

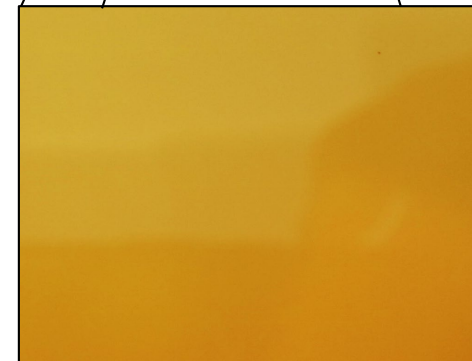
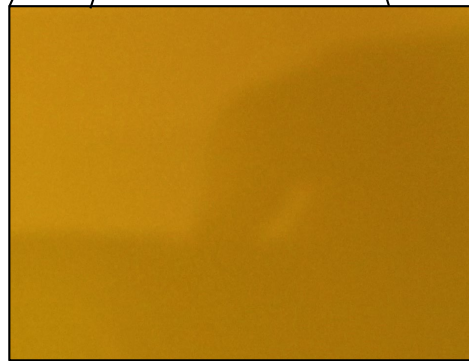
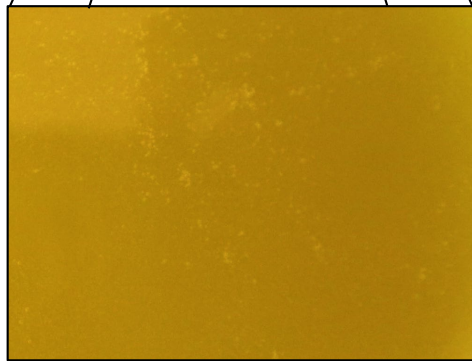
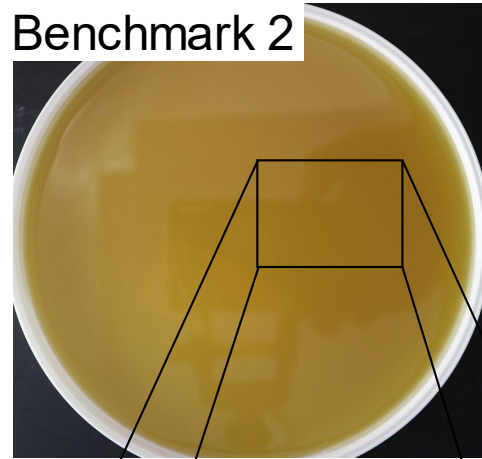
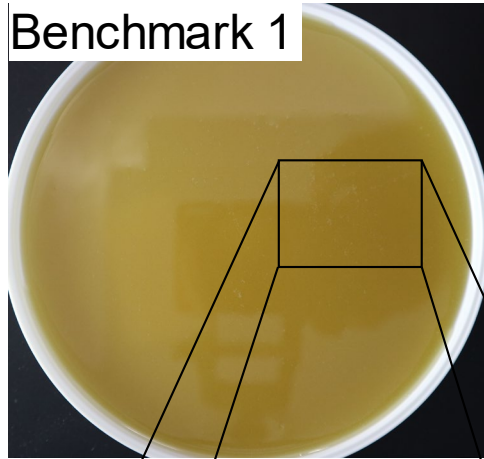
# Performance tests – without any defoamer



Time

Without any defoamer, our flooring would be completely useless.

# Performance tests – with market standards and Efka® PB 2744



Benchmark 1 is still showing some small bubbles, while Benchmark 2 and Efka® PB 2744 are showing excellent performance in terms of defoaming and levelling.

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# Solutions from nature – SOVERMOL®

As **biobased** polyols are made of renewable raw materials such as **rapeseed oil, castor oil or soybean oil**, Sovermol® is specially designed for

flooring applications like:

- concrete flooring
- sports flooring
- UV-stable / decorative coatings

industrial applications like:

- wind blades
- pipeline coatings
- protective coatings
- adhesives





# Solutions from nature – SOVERMOL®

- The low viscosity of Sovermol® allows to formulate **low VOC** or **solvent-free coating systems**.
- Sovermol® provides well balance Hydrolysis stability and Hydrophobic properties to create networks without bubbles or foam formation
- Sovermol based coatings systems are an **alternative** coating for BPA containing **epoxy systems**
- This uniqueness enriches Sovermol® **properties** like **good adhesion**, **excellent workability** and **good weathering**.
- These natural oil-based polyols help you to comply with environmental standards while meeting even the toughest coating requirements.



# Polyols based on renewable raw materials

## Sovermol® - General characteristics

### Performance highlights

- Low sensitivity against moisture
- Broad gel time range available (60 sec to 8 hours)
- Very low shrinkage
- High pigment loading with good self-leveling properties – “easy-to-apply”
- Resistance to crack propagation
- Hardness regulated without plasticizer (use of reactive hydroxyl functional diluent)
- High UV- and weathering resistance
- High content of renewable materials
- Zero VOC
- Solvent-free

### Chemistry

Natural oil-based (e.g. castor oil) polyols crosslinkable via OH functionality

#### POLYETHER

- + Hydrolysis stability
- Hydrophobic properties

#### SOVERMOL®

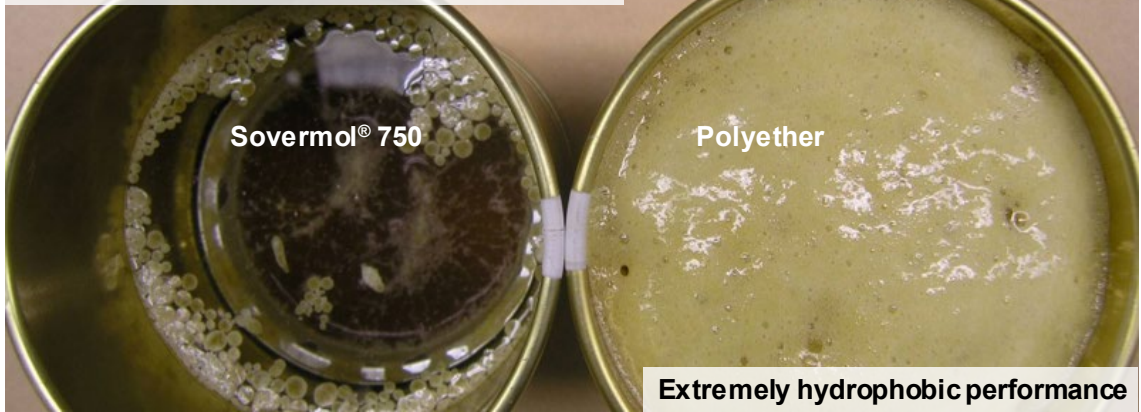
#### POLYETHER / -ESTER

- + Hydrolysis stability
- + Hydrophobic properties

#### POLYESTER

- Hydrolysis stability
- + Hydrophobic properties

Cured with polymer MDI (NCO content 31%)



### Exemplary applications



Concrete



Adhesives



ACE



Wind power

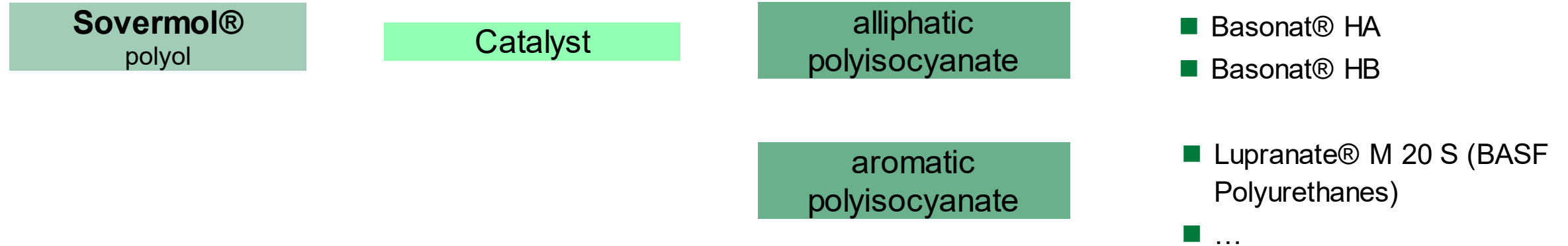
### Availability

Commercial product



# Sovermol® - what now?

## 2K PU reaction

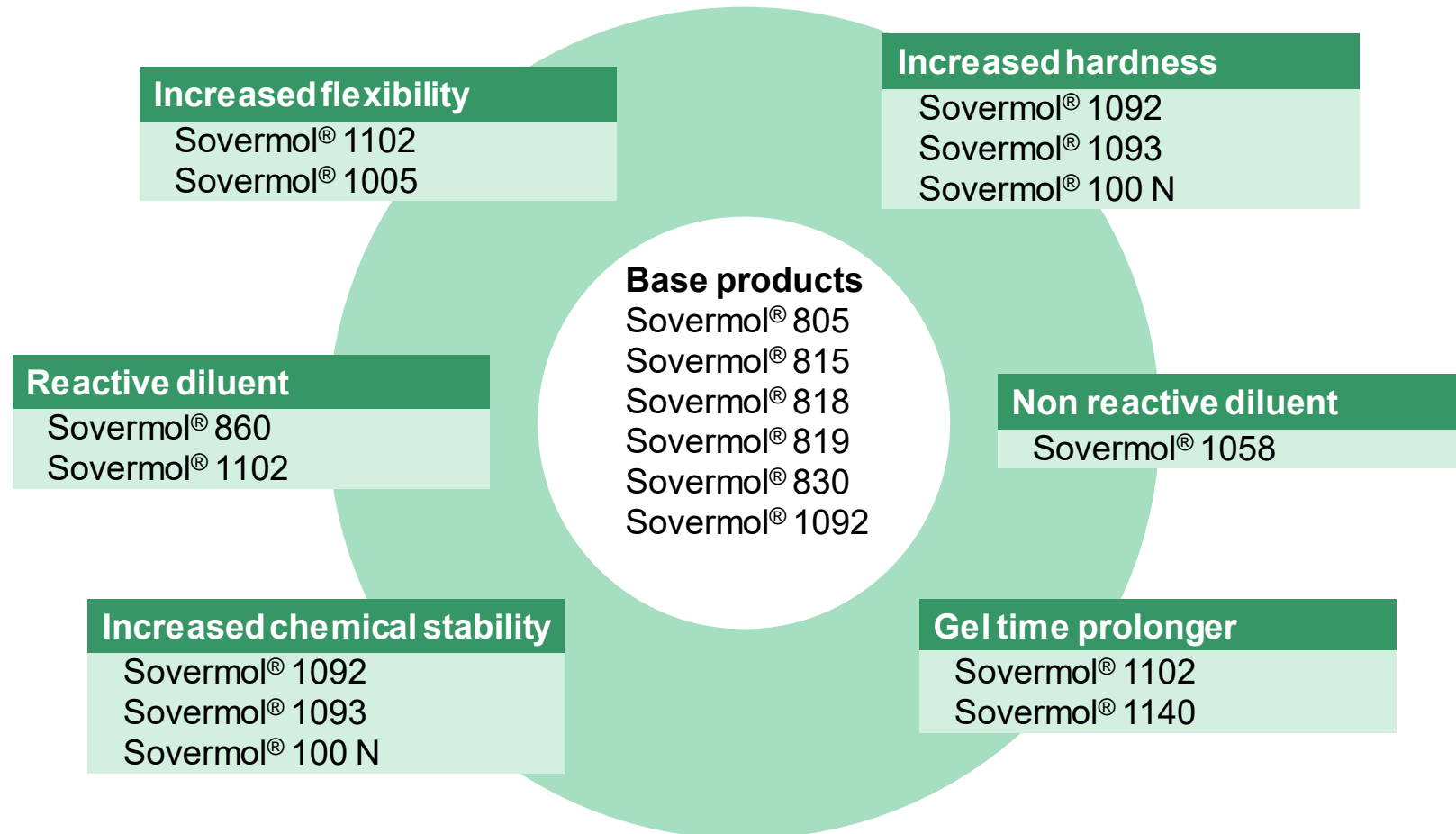


### Calculation of the hardener amount based on 100 g polyol

$$\text{NCO amount} = \frac{\text{OH-value}}{\text{NCO-\%}} \times 7,5$$

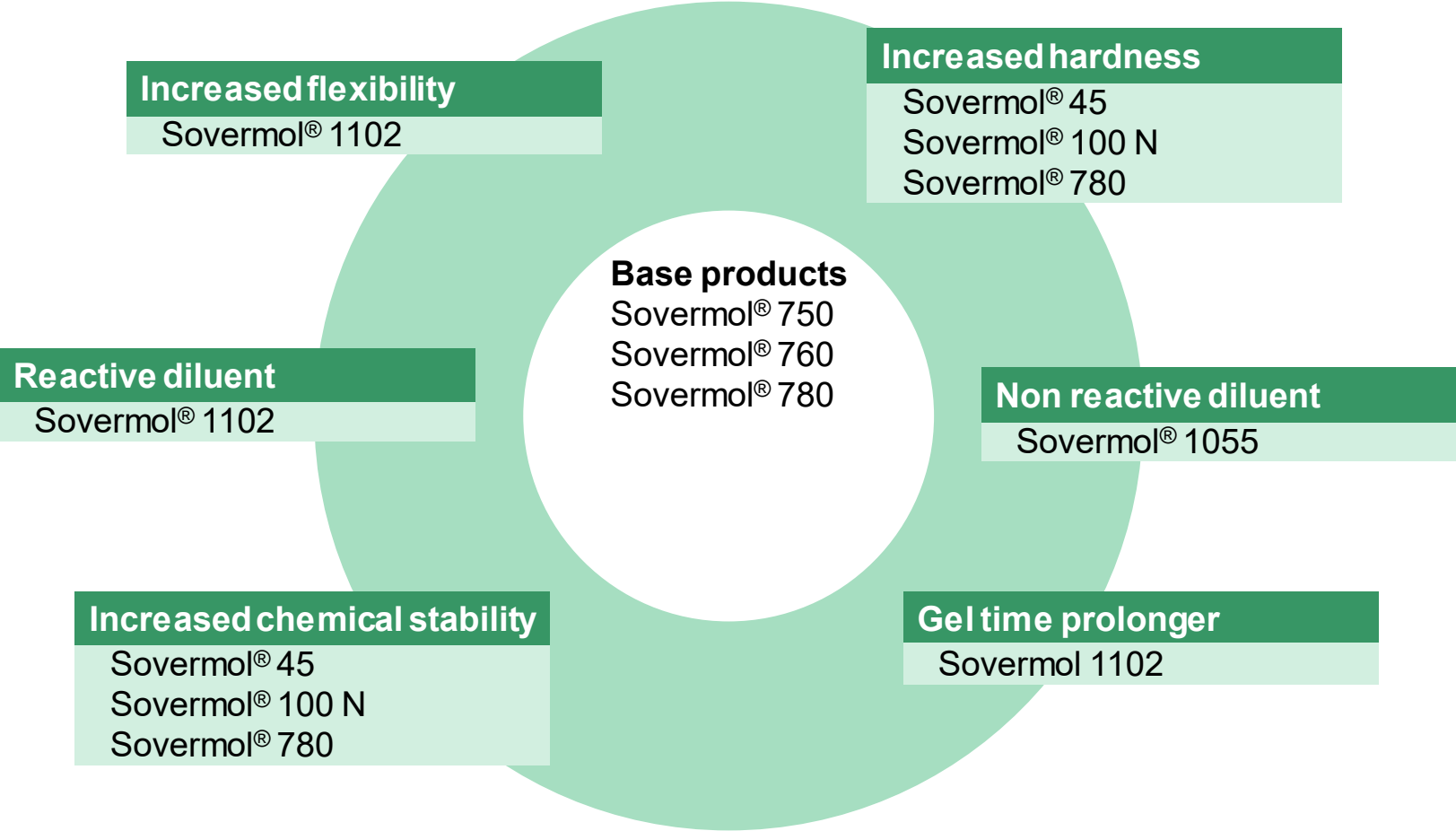
# Bio-based polyols

## Sovermol® construction kit – industrial flooring



# Bio-based polyols

## Sovermol® construction kit – UV- & weathering stability



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# Summary

- Excellent de-aeration performance with **Efka® PB 2744** in high solid and solvent-free systems like the **Sovermol®** range
- Especially designed for industrial flooring compositions which have to comply with latest construction norms (e.g. AgBB )
- Also excellent results in customer specific epoxy flooring formulations
- Very effective against macro and micro-foam
- Imparts surface smoothness
- Hazard label-free



# Solution Finder Tool for Formulation Additives



The **Solution Finder Tool** offers you the best additive solution for your formulation needs across all industries ([www.basf.com/solution-finder](http://www.basf.com/solution-finder))



## Features & Benefits

- Formulation Additives guide for Paints and Coatings, Adhesives and Construction\*
- Understand the benefits of our products (Dispersing Agents, Defoamers, Rheology Modifiers, Wetting Agents and Surface Modifiers, and Film-Forming Agents) by application, and with technical information
- Order samples or email us for detailed consultations
- Available on BASF web, Apple Store and Google Play Store\*\*

\*The product list and sample ordering for adhesives and construction are only applicable in Europe. It also comprises recommendations for Performance Additives

\*\*To use this tool on your Windows device, please visit our website for details

Scan QR code for details





# Lab Assistant for Architectural Coatings



**Lab Assistant** is a web-based application that makes it easier for you to find BASF dispersions and additives for Architectural Coatings in Europe ([www.lab-assistant.basf.com](http://www.lab-assistant.basf.com))

## Features & Benefits

- Get product recommendations and formulation ideas according to the final properties of the paint, technical data, complete recipes and ingredient calculator
- Access formulation expertise to gain new insights and ideas
- All relevant data (e.g. MSDS, TDS, Reach, sustainability aspects, brochures, value cards, etc) available in one location
- Compare products or formulations
- Individualize your own account and share content with your colleagues
- Order samples or get in touch with our experts
- Runs on your PC / laptop / tablet / smartphone

Scan QR code for details



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# There is more to come...

## Next series of Webinars starting September 1st

UV stabilization of UV curable systems: **Oct 7 & 8**

Efka PB 2744 and Sovermol: **Oct 14 & 15**

Additives for reactive systems: **Oct 21 & 22**

Additives for a sustainable future: **Oct 28 & 29**

Don't want to miss the **next webinars**? Register for our **newsletters** at:

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We create chemistry

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