



High molecular weight wetting and dispersing agent for water and solvent based coating systems. VOC free, APEO free, 100% Active

## Description

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**Borchi® Gen 0451** is a solvent-free polyurethane oligomer with excellent wetting and deflocculation properties for most types of pigments in water and solvent based coatings systems. It is alkylphenol ethoxylates (APEO) and VOC free.

## Characteristic Data

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Density	1.090 - 1.150 g/cm <sup>3</sup>	DIN 53217 (23 °C)
Viscosity	Max. 30000 mPa·s	ISO 3219 (A) (23 °C)
Content of	modified polyurethane: 100 % (typical)	

## Properties

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**Borchi® Gen 0451** improves pigment wetting, shortens dispersion time and efficiently deflocculates pigments through steric stabilization. It improves color strength and gloss in cured films.

**Borchi® Gen 0451** lengthens the shelf-life of paints and pigment concentrates by inhibiting settling and reflocculation.

## Applications

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**Borchi® Gen 0451** is recommended for high quality industrial, automotive and automotive refinishing paints as well as for universal pigment pastes. It can be used in waterborne alkyds, acrylics and aqueous 2K polyurethanes.

**Borchi® Gen 0451** is effective in solventborne 1 and 2K polyurethanes, 2K epoxies, thermoplastic polyacrylates, unsaturated polyester coatings, polyvinyl chloride plastisols and UV coatings. It is also compatible with short and medium oil alkyd resins but limited compatibility with long oil alkyd resins. Use Borchi® Gen 0755 instead in these formulas.

**Borchi® Gen 0451** is highly effective in dispersing and stabilizing organic pigments, particularly carbon black, in waterborne systems. It is also an effective dispersing agent for inorganic pigments and fillers in solvent based coatings.



		Binder systems						Pigment pastes			Pigment pastes			
aqueous	solventborne	PUR	EP	Acrylat	Alkyd	UV	NC	resin-free	resin based	universal	titanium dioxide	inorganic	organic	carbon black
✓	✓	✓	✓	✓	✓	✓	(✓)	✓	✓	✓	✓	(✓)	✓	✓

✓ : particularly recommended application

(✓): suitable application

## Dosage

For best results, **Borchi® Gen 0451** should be added slowly to the mill base under agitation prior to adding the pigments. In resin-free systems like universal tinting pastes, **Borchi® Gen 0451** should be completely pre-mixed with water or solvent, depending upon the system, prior to adding pigments for the best color development.

Recommended amounts of **Borchi® Gen 0451** in % based on pigment content:

Titanium dioxide: 3 - 5

Inorganic pigments: 5 - 10

Organic pigments: 10 - 30

Carbon blacks: 30 - 80

The required addition rate depends on pigment particle size and surface area. The exact dosage should be experimentally determined.

## Storage

Protect from the effects of weather and store at temperatures between 15 and 30 °C.

Turbidity and flocculation may occur if **Borchi® Gen 0451** is exposed to temperatures below 15 °C. This effect is reversible and does not affect its potency. Warm the material to room temperature and mix well before using. If its viscosity has also increased and it is difficult to handle the material must be heated to 50 °C to return the viscosity to normal.

Once opened, containers should be resealed immediately after each removal of the product.

## Safety



Please refer to our safety data sheet for information relating to product safety.

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## OMG Borchers GmbH

Berghausener Str. 100 / 40764 Langenfeld / Telephone: +49 (0) 2173 - 39 26 666  
Fax: +49 (0) 2173 - 39 26 999 / Internet: [www.borchers.com](http://www.borchers.com) / E-Mail: [info@borchers.com](mailto:info@borchers.com)

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