



Non ionic, polyurethane thickener

glycol ether-free, VOC-free according to the European Directives 1999/13/EC and 2004/42/EG

Description

Rheological additives affect the flow properties of liquids. Such properties are characterised by the physical parameters viscosity, shear stress and shear rate. Very few liquids of any practical significance actually behave like ideal liquids. Most liquids exhibit rheological properties between those of liquids and solids. They are thus elastic as well as viscous. These are desirable properties in paints. Paint's application properties and shelf-life, for example, can be modified with additives.

In many cases rheological properties under low-shear (dip- and spray applied coatings) and high-shear (brushing and rolling) conditions are of crucial importance in the application of paints. The paint rheology can be modified in specific ways using appropriate additives.

Co-solvent free

Characteristic data

Appearance:	colorless to slight yellowish, clear to slight cloudy liquid	
Free of swelling agents:	yes	Borchers test method 100-06: (spatula run-off test)
Non-volatile content, %:	45 – 49	DIN EN ISO 3251 (1g, 1h, 125 °C)
Viscosity (23 °C), mPa·s:	< 9,000	DIN EN ISO 3219 (A.3 rotation)
Flash point, °C:	> 100 (typical)	

Properties

Even small amounts of **Borchi® Gel LW 44** bring about significant thickening of the aqueous phase. The resulting liquid is pseudoplastic, i.e. its viscosity is inversely proportional to its shear rate. **Borchi® Gel LW 44** is therefore particularly suitable for low-viscosity applications such as spraying and dip-coating of water-borne and water-emulsifiable paint systems (finishing paints and primers), aqueous 2-component polyurethane-based systems and 2-component epoxy systems and polyester systems. It can also be used for copolymer dispersions depending on the requirements profile. Particularly advantageous in this context is its effect on viscosity under low-shear conditions.

Viscosity under high-shear conditions can be adjusted if necessary by combining **Borchi® Gel LW 44** with other rheological additives. In contrast to conventional polyurethane-based thickeners, **Borchi® Gel LW 44** is characterised by more stable viscosity when used in conjunction with wetting agents and film-forming aids. **Borchi® Gel LW 44** is characterised by good efficacy and does not impair the water resistance of dispersion films at the recommended addition rates. **Borchi® Gel LW 44** is shear-stable and can also be used as a dispersing agent. It does not adversely affect the gloss properties of finishing paints.

Borchi® Gel LW 44 is manufactured using aliphatic isocyanates; it has thus no negative influence on yellowing and chalking of coating film.



Use and Dosage

Because of its low intrinsic viscosity, **Borchi® Gel LW 44** can be used without pre-dilution. In particular instances, pre-dilution (e.g. 1:9 in water) may confer certain advantages.

Recommended dosages vary between 0.1 and 2.0 % **Borchi® Gel LW 44** relative to total formulation.

Storage

Protect from the effects of weathering and store at temperatures between 5 and 30 °C.
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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