DISPERBYK-2180

Alkali-resistant wetting and dispersing additive for inorganic pigments and fillers in aqueous systems

The requirements for wetting and dispersing additives are diverse and vary depending on the application. For this reason, high-performance products are manufactured using different chemistries, each of which offers advantages but also has limitations. In addition to purely qualitative aspects, there are increasing demands for environmental compatibility. The base chemistry used can help, for example, to eliminate the need for environmentally critical additives such as biocides. BYK is therefore adding a new element to its range of technologies that expands the scope of possibilities: wetting and dispersing additives based on polycarboxylate ethers.

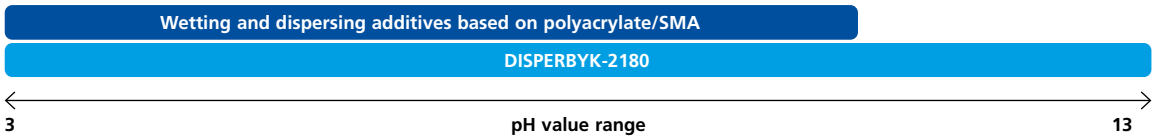
Thanks to their molecular structure, they remain stable across a wide pH range. The high density of ionic binding groups ensures particularly effective performance with inorganic pigments and fillers. They deliver outstanding viscosity reduction and excellent coloristic properties in the formulations.

DISPERBYK-2180: a new polycarboxylate ether with broad pH value tolerance in aqueous systems for the effective wetting and stabilization of inorganic pigments and fillers.

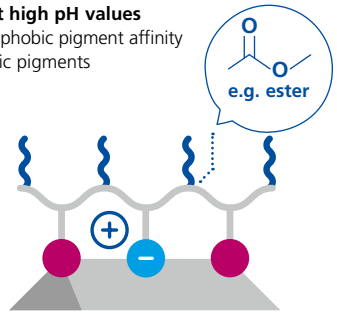
Benefits

- Suitable for the entire pH range, including highly alkaline systems
- Excellent deflocculation and stabilization of inorganic particles such as
  - Inorganic pigments, particularly transparent iron oxides
  - Titanium dioxide
  - Fillers
- Significant reduction in millbase viscosity, enablling higher pigment loading
- Outstanding coloristic properties and transparency
- Fine particle size and perfect particle distribution
- Excellent storage stability of the final product

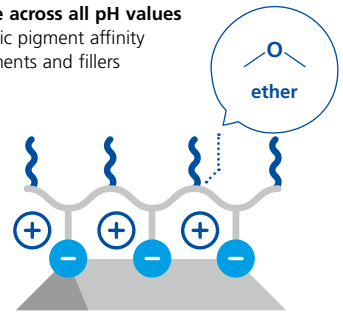
Area of application and structure of DISPERBYK-2180



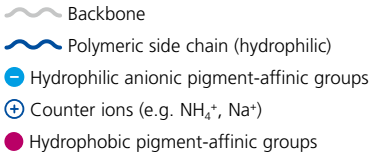
Polyacrylate-/SMA-based versatile wetting and dispersing additives
- Comb structure with e.g. ester bonds
  - **Hydrolysis-sensitive at high pH values**
- Balanced hydrophilic/hydrophobic pigment affinity
  - For organic and inorganic pigments



Polycarboxylate ether-based DISPERBYK-2180
- Comb structure with ether bonds
  - **Hydrolysis-stable across all pH values**
- Optimized hydrophilic pigment affinity
  - For inorganic pigments and fillers



Ideal for biocide-free formulations



Technical data
- Polycarboxylate ether
- Density (20 °C): 1.17 g/cm³
- pH value: 8.3
- Non-volatile matter (10 min, 150 °C): 52 %
- Solvent: water
- Acid value: 75 mg KOH/g
- Delivery form: liquid

Very good viscosity reduction with DISPERBYK-2180

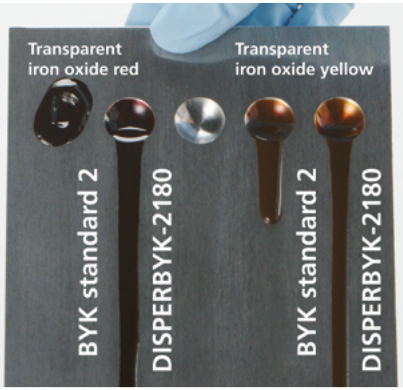
Architectural coatings

Test system: aqueous resin-free grind, 16 % pigment load (TiO_2), 49 % filler load

Additive dosage: 1 % (solid on pigment)

Fine particle size and excellent storage stability in aqueous inkjet inks

Inkjet inks



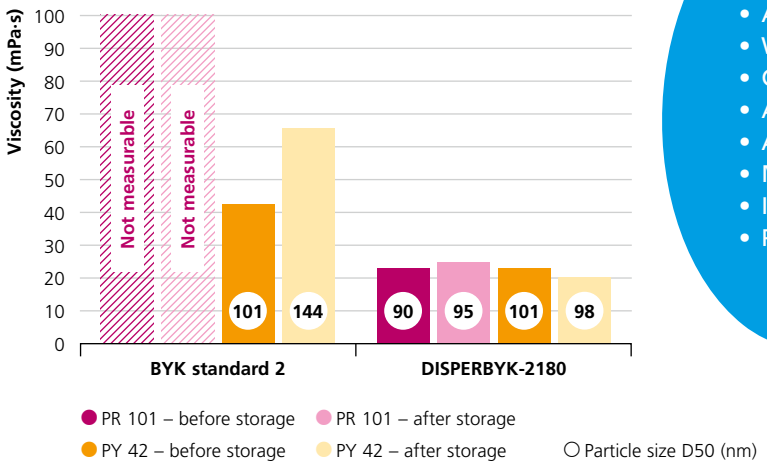
Test system: aqueous resin-free grind, 30 % pigment load (PR 101/PY 42)

Additive dosage: 30 % (solid on pigment), **storage conditions:** 2 weeks at 60 °C

DISPERBYK-2180: Ideal for biocide-free architectural coatings

Properties	Dispersion paint	Silicate paint	Dispersion silicate paint
Biocide-free		●	●
Excellent adhesion to mineral substrates		●	●
Extremely durable, weather-resistant coatings		●	●
Highly breathable		●	●
Storage-stable	●	○*	●
Usable on a variety of substrates	●		●
Ready-to-use (easy application, suitable for DIY paints)	●		●

* Stable only before components are mixed



Areas of application

- Architectural coatings
- Wood and furniture coatings
- General industrial coatings
- Automotive OEM coatings
- Automotive refinish coatings
- Marine and protective coatings
- Inkjet inks
- Printing inks

Your local contact

BYK-Chemie GmbH
Abelstraße 45
46483 Wesel
Germany
Tel +49 281 670-0

info@byk.com
www.byk.com

Download our app: **byk.com/app**

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