# DISPERBYK-2205

Wetting and dispersing additive for solvent-borne and solvent-free liquid coatings, printing inks and inkjet inks to stabilize inorganic and organic pigments.

## Product data

**Composition**
Modified polyester

Solvent-free

**Typical properties**
The values indicated in this data sheet describe typical properties and do not constitute specification limits.

| | |
|---|---|
| Density (20 °C): | 1.03 g/cm³ |
| Non-volatile matter (10 min, 150 °C): | > 99 % |
| Melting point: | 50 °C |
| Flash point: | > 120 °C |
| Acid value: | 24 mg KOH/g |
| Amine value: | 27 mg KOH/g |
| Delivery form: | solid |

**Storage and transportation**
Product shelf life in unopened original packaging: 36 months
To be stored and transported at a temperature below 40 °C.

## Applications

### Coatings industry

**Special features and benefits**
DISPERBYK-2205 is characterized by its highly effective stabilization of inorganic and organic pigments in solvent-borne and solvent-free coating systems. In combination with the pigments, the use of DISPERBYK-2205 minimizes thixotropy whilst generating Newtonian flow behavior. It also significantly improves both color strength and transparency, and increases gloss whilst minimizing haze. Furthermore, due to its effective reduction in viscosity, DISPERBYK-2205 enables an increase in the pigment content of organic and inorganic pigments in pigment concentrates. The product is suitable for single grinds and co-grinds.

DISPERBYK-2205 is also suitable for acid-catalyzed systems.

**Recommended use**

| | |
|---|---|
| Coil coatings | ■ |
| General industrial coatings | ■ |
| Automotive OEM coatings | ■ |
| Automotive refinish coatings | ■ |
| Wood and furniture coatings | □ |

■ Especially recommended □ Recommended

**Recommended levels**
Amount of additive (as supplied) based on:

Inorganic pigments: 2-7 %
Organic pigments: 15-30 %
Carbon black: 20-70 %

The above recommended levels can be used for orientation. The optimum dosage should be determined by application-related test series.

**Incorporation and processing instructions**
DISPERBYK-2205 can be used in different ways in the dispersing process:

a. Dissolving in organic solvents: The solubility of DISPERBYK-2205 is significantly dependent on the type of organic solvent that is being used. This is why concentrated solutions of DISPERBYK-2205 in organic solvents should be used immediately after their manufacture; in suitable solvents, the mixture can be stored for several days. Some examples are provided in the table under "Special Note".

b. Dissolving of DISPERBYK-2205 in the grinding resin - solvent mix before incorporating pigments and fillers: For this purpose, the grinding resin and/or additional solvent is pre-mixed with the additive and homogeneously distributed whilst stirring, until the DISPERBYK-2205 is completely dissolved; only then should solids be incorporated.

c. Addition of the additive to the millbase without prior dissolving: The dispersing process can be started without the prior homogenization of the additive in the millbase. This method is suitable only if it is assured that the millbase achieves a temperature of at least 60 °C.

## Printing inks

**Special features and benefits**
DISPERBYK-2205 is particularly recommended for the manufacture of medium-polarity to non-polar, solvent-borne pigment concentrates and printing inks. It improves the color strength and transparency of the grinds. The viscosity of the concentrate and printing inks is reduced.

**Recommended use**
DISPERBYK-2205 is recommended for use in polyurethane and vinyl systems, in toluene and other non-polar gravure inks, and lamination inks.

**Recommended levels**
Amount of additive (as supplied) based on:

5-15 % additive (as supplied) based on organic pigments.
5-15 % additive (as supplied) based on carbon black.

The above recommended levels can be used for orientation. The optimum dosage should be determined by application-related test series.

**Incorporation and processing instructions**
DISPERBYK-2205 can be used in different ways in the dispersing process:

a. Dissolving in organic solvents: The solubility of DISPERBYK-2205 is significantly dependent on the type of organic solvent that is being used. This is why concentrated solutions of DISPERBYK-2205 in organic solvents should be used immediately after their manufacture, in suitable solvents, the mixture can be stored for several days. Some examples are provided in the table under "Special Note".

b. Dissolving of DISPERBYK-2205 in the grinding resin - solvent mix before incorporating pigments and fillers: For this purpose, the grinding resin and/or additional solvent is pre-mixed with the additive and homogeneously distributed whilst stirring, until the DISPERBYK-2205 is completely dissolved; only then should solids be incorporated.

c. Addition of the additive to the millbase without prior dissolving: The dispersing process can be started without the prior homogenization of the additive in the millbase. This method is suitable only if it is assured that the millbase achieves a temperature of at least 60 °C .

## Inkjet inks

**Special features and benefits**
DISPERBYK-2205 is recommended for use in both solvent-borne drop-on-demand and also in continuous inkjet applications. Thanks to its outstanding deflocculation, DISPERBYK-2205 significantly improves pigment wetting and optical properties (color strength, transparency, gloss, haze). The viscosity both of the pigment concentrates as well as the final inkjet inks is reduced and thixotropic flow behavior prevented. In addition, it can achieve long-term stability without changing viscosity. The excellent deflocculating properties result in a very fine and close particle size distribution, through which the filtration times of the inkjet inks are considerably reduced.

**Recommended use**
Escpecially recommended for drop-on-demand inkjet inks, strong-solvent inkjet inks, mild-solvent inkjet inks, and continuous inkjet inks.

**Recommended levels**
Amount of additive (as supplied) based on:

20-70 % additive (as supplied) based on organic pigments.
30-90 % additive (as supplied) based on carbon black.

The above recommended levels can be used for orientation. The optimum dosage should be determined by application-related test series.

**Incorporation and processing instructions**
DISPERBYK-2205 can be used in different ways in the dispersing process:

a. Dissolving in organic solvents: The solubility of DISPERBYK-2205 is significantly dependent on the type of organic solvent that is being used. This is why concentrated solutions of DISPERBYK-2205 in organic solvents should be used immediately after their manufacture, in suitable solvents, the mixture can be stored for several days. Some examples are provided in the table under "Special Note".

b. Dissolving of DISPERBYK-2205 in the grinding resin - solvent mix before incorporating pigments and fillers: For this purpose, the grinding resin and/or additional solvent is pre-mixed with the additive and homogeneously distributed whilst stirring, until the DISPERBYK-2205 is completely dissolved; only then should solids be incorporated.

c. Addition of the additive to the millbase without prior dissolving: The dispersing process can be started without the prior homogenization of the additive in the millbase. This method is suitable only if it is assured that the millbase achieves a temperature of at least 60 °C.

## Powder coatings

### Special features and benefits

Thanks to its delivery form, DISPERBYK-2205 is easy to use in powder coatings. It is particularly recommended for the optimized dispersion of carbon blacks, organic pigments, and pastel shades.

The surface quality of the coating is improved through higher DOI (DOI = distinctness of image), smoother leveling, and higher gloss value. In addition, DISPERBYK-2205 improves degassing in powder coatings.

### Recommended use

DISPERBYK-2205 is recommended for all standard powder coating systems.

### Recommended levels

0.5-2 % additive (as supplied) based on the total formulation.

The above recommended levels can be used for orientation. The optimum dosage should be determined by application-related test series.

### Incorporation and processing instructions

The additive should be mixed with the resin, hardener, and other raw materials in a high-speed mixer. The powder coating should then be extruded.

### Special note

The additive should always be used in combination with an anti-crater and leveling additive.

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