

## BYKJET-9177

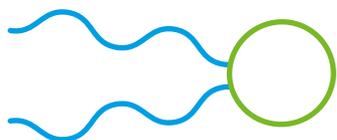
### Next-generation wetting and dispersing additive with special pigment-affinic group for perfect stabilization of organic pigments and carbon blacks in aqueous inkjet inks

Modern inkjet inks are continuing to develop unabatedly – be that through new binder systems and the subsequently adapted formulations, or through the general evolution of technology for solvent-borne systems through to aqueous systems. Increasing customer demand for quality and environmental properties, paired with new regulatory requirements, are the driving forces behind the new innovations and advances. Today, BYK is presenting a new, unique additive – BYKJET-9177.

BYKJET-9177 is a relatively low-molecular-weight polymer (> 1000 g/mol) with a special pigment-affinic group that ensures the stabilization of difficult pigments. It therefore represents the latest generation of wetting and dispersing additives for inkjet inks. In addition to efficient dispersion and outstanding viscosity, the additive exhibits excellent resolubility of the inkjet inks. BYKJET-9177 is VOC-free and meets the current standards for indirect contact with food.\*<sup>1</sup>

\*<sup>1</sup> This information is correct as of December 2022.  
The current status can be found at  
<https://www.byk.com/en/service/regulatory-affairs/food-contact>

#### Special pigment-affinic group for the stabilization of pigments that are difficult to disperse



● Amine pigment-affinic group    ● Polyether modification

The pigment-affinic part and the polyether modification are linked via urethane bonds. The relatively low molecular weight improves the wetting speed.

#### Outstanding resolubility of the inkjet ink



### Benefits

- Dispersing additive for organic pigments, carbon blacks, and disperse dyes in aqueous systems (both inkjet and traditional printing inks)
- Particularly effective with carbon blacks and some pigments that are difficult to stabilize
- Very good results for PY 185 and PO 64
- Highly efficient grinding process and smaller particles
- Ensures perfect resolubility of the ink
- Outstanding viscosity reduction with Newtonian flow behavior even with higher pigment load
- Strong color strength and transparency of the finished inkjet inks
- Especially recommended for resin-free pigment grinds
- Supplied as an aqueous solution, making it free from VOC and other emissions
- Complies with the Swiss Ordinance (A list) and Nestlé Guidance Note on Packaging Inks\*<sup>1</sup>

#### Technical properties

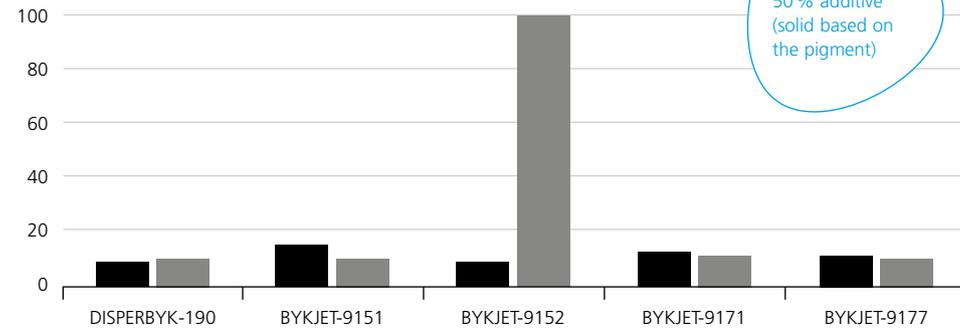
- Chemical composition: aqueous solution of a modified polyether
- Density: 1.10 g/ml
- Non-volatile matter (20 min, 150 °C): 52 %
- Solvents: water
- Amine value: 5 mg KOH/g

# Excellent viscosity reduction before and after storage

\*2 For better clarity, only the range up to 100 mPa·s is shown.

## Carbon black pigment

Viscosity (mPa·s)\*2

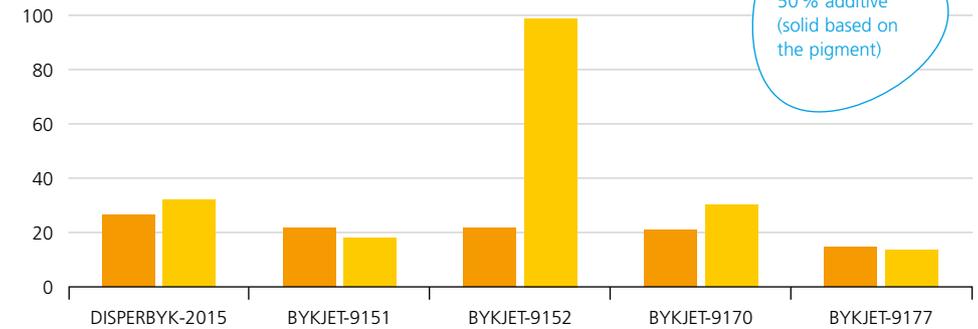


● Immediately ● 2 weeks at 60 °C Pigment: SPECIAL BLACK 250 (PBk 7), Orion

20 % pigment  
50 % additive  
(solid based on  
the pigment)

## Orange pigment

Viscosity (mPa·s)\*2



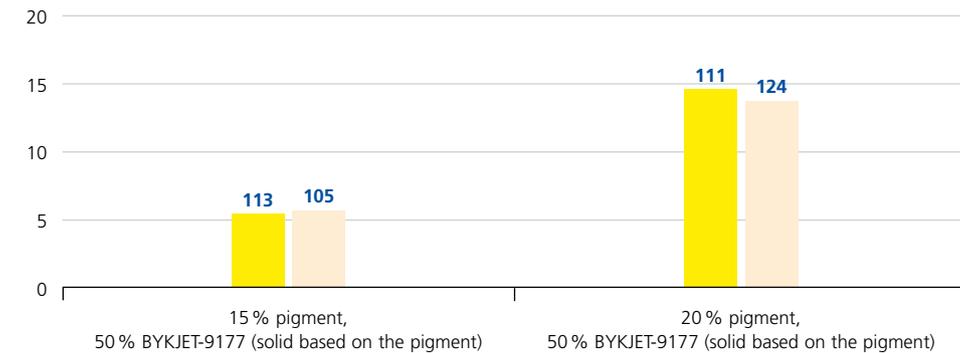
● Immediately ● 2 weeks at 60 °C Pigment: PV Fast® Orange H2GL (PO 64), Heubach (formerly Clariant)

20 % pigment  
50 % additive  
(solid based on  
the pigment)

# Viscosity and particle sizes at different dosages before and after storage

## Yellow pigment

Viscosity (mPa·s)\*2



● Immediately ● 2 weeks at 60 °C ● Particle size D50 in nm

Pigment: Paliotol® Yellow D 1155 (PY 185), DIC (formerly BASF)

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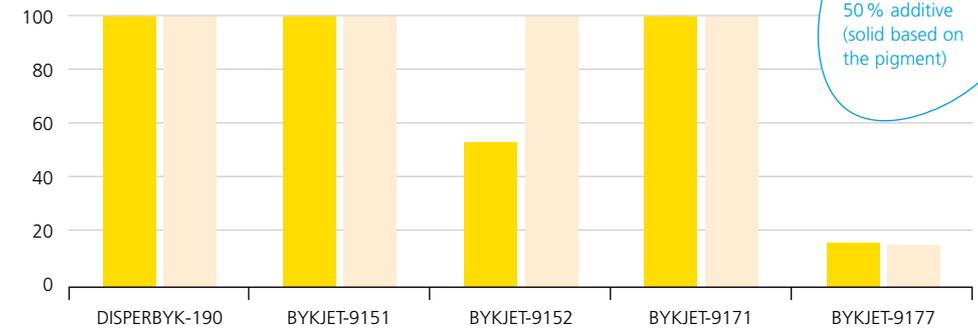
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This issue replaces all previous versions.

## Yellow pigment

Viscosity (mPa·s)\*2



● Immediately ● 2 weeks at 60 °C Pigment: Paliotol® Yellow D 1155 (PY 185), DIC (formerly BASF)

20 % pigment  
50 % additive  
(solid based on  
the pigment)

