AQUACER 531

Wax emulsion on modified PE basis to improve surface properties of aqueous coatings, printing inks and dry lubricants. Anti-caking additive for thermoplastics and hot-melt adhesives.

Product data

Composition
Non-ionic emulsion based on modified high density polyethylene wax

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

pH value:	3.5
Non-volatile matter (60 min, 125 °C):	45 %
Carrier:	water
Melting point (wax content):	130 °C
Viscosity (20 °C):	125 mPa·s

Storage and transportation
Temperature sensitive. To be stored and transported between 5 °C and 35 °C. Mix well before use.

Applications

Coatings industry

Special features and benefits
The additive improves scratch resistance in aqueous coatings and also increases abrasion resistance. In addition, surface slip and blocking resistance are improved. These advantages apply in particular to aqueous 2-pack polyurethane and aqueous UV systems.

Recommended use

Architectural coatings	▢
Floor coatings	▢
General industrial coatings	▢
Wood and furniture coatings	▢

■ especially recommended ▢ recommended

Recommended levels
1–5 % 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 is preferably incorporated into the coating with a low shear rate at the end of the production process. Stir well before use.

Adhesives and sealants

Special features and benefits
AQUACER 531 is used as an anti-blocking additive in the manufacture of hot-melt adhesives during underwater pelletizing to obtain free-flowing and non-sticking granulated material. It is directly added to the cooling water and, therefore, is easy to handle and dust-free.

Recommended levels
0.5–5 % additive (as supplied) based upon amount of water in the cooling circuit.

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 is added directly to the circuit water. If foaming occurs in the circuit water, we recommend defoamers BYK-023 or BYK-016 at a dosage of 0.05–0.3 %.

Thermoplastics

Special features and benefits
Thermoplastic granulated material (TPE, TPU, EVA) tends to compact and cake under pressure and heat. AQUACER 531 is used in the underwater pelletizing of such materials and forms a protective layer covering the granules, thereby generating non-sticking and free-flowing granulated materials. Unlike the commonly performed dusting of the granulate materials with solid release agents (chalk, talc), significantly lower quantities are needed, which, therefore, avoid an impact on the properties of the thermoplastic material. The generation of dust during processing is also eliminated. If foaming occurs in the circuit water during underwater granulation, we recommend defoamers BYK-023 (silicone defoamer) at a dosage of 0.05–0.1 %.

Recommended levels
0.2–5 % additive (as supplied) in the circuit water.

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 is added directly to the circuit water.

Lubricants and mold release

Special features and benefits
AQUACER 531 is used in dry lubricants and anti-friction coatings to adjust the coefficient of friction (CoF). On most metallic substrates it forms a uniform wax layer, which results in a low CoF. The product can be used to achieve a CoF of between 0.1 and 0.15. It can be used by itself or in combination with other aqueous binders, such as silicates or acrylates. It is frequently used in dry lubricants and anti-friction coatings for fasteners such as screws and nuts, and in surface sealers for metal components.

Recommended levels
2–10 % wax content 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 can be incorporated at any point during formulation

Printing inks

Special features and benefits
The additive improves the scratch resistance in aqueous printing inks. Anti-blocking is also improved.

Recommended use

Flexographic inks	■
Packaging gravure	■
Overprint varnishes	■

■ especially recommended ▢ recommended

Recommended levels
2–5 % 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 is preferably incorporated into the coating with a low shear rate at the end of the production process. Stir well before use.

Leather finishes and coated fabrics

Special features and benefits
Surface effects:

- Burnishing effect
- Gloss increase

Improvement in:

- Scratch resistance
- Abrasion resistance

Systems:

- Aqueous

Recommended levels
2–5 % 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 is preferably incorporated into the coating with a low shear rate at the end of the production process. Stir well before use.

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