

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 |
| Delivery form: | emulsion |

Storage and transportation

Product shelf life in unopened original packaging: 15 months

Temperature sensitive. To be stored and transported between 5 °C and 35 °C. Stir 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 | <input type="checkbox"/> |
| Floor coatings | <input type="checkbox"/> |
| General industrial coatings | <input type="checkbox"/> |
| Wood and furniture coatings | <input type="checkbox"/> |
| Coil coatings | <input type="checkbox"/> |

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 on 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 the use of defoamers.

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 | <input checked="" type="checkbox"/> |
| Packaging gravure | <input checked="" type="checkbox"/> |
| Overprint varnishes | <input checked="" type="checkbox"/> |

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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