

PURABYK-R 5500 XR

Rheology additive based on synthetic phyllosilicate for aqueous systems to form shear-thinning thixotropic hydrogels from solutions of hypochlorous acid (HClO). Gamma-irradiation-sterilized version of PURABYK-R 5500.

Product data

Composition

Modified synthetic phyllosilicate

Typical properties

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

Bulk density: 1000 kg/m³
 pH value (2 % in H₂O): 10
 Moisture content: max. 10 %
 Total viable count: < 10 cfu/g
 Appearance: free-flowing, white powder

Storage and transportation

PURABYK-R 5500 XR is hygroscopic and should be transported and stored dry in the unopened original container at temperatures between 0 °C and 30 °C.


Applications

Hydrogels (for disinfection)

Special features and benefits

Thanks to its inorganic structure, PURABYK-R 5500 XR offers good compatibility and excellent stability towards aqueous solutions of hypochlorous acid. Adding the additive leads to the formation of a gel structure. This enables a significantly longer contact time with the surface compared to water-thin solutions, which in turn improves the effectiveness of the disinfectant. Another benefit is the increased storage stability of the product, since the additive slows down the release of free chlorine in the hydrogel. The resulting thixotropic flow behavior means the gel is easy to use and can also be applied by spraying. PURABYK-R 5500 XR tolerates high quantities of NaCl of up to 4 %. The additive can be added directly to the solution if the salt content is 2 % or below.

Recommended use

Hydrogels (for disinfection)	
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 especially recommended
  recommended

Recommended levels

2–5 % additive (as supplied) based upon the total formulation, depending on the properties of the formulation to be achieved.

The above recommended levels can be used for orientation. Optimal levels are determined through a series of laboratory tests.

Incorporation and processing instructions

For the incorporation, two cases have to be distinguished. If the HClO solution contains up to 2 % NaCl, PURABYK-R 5500 XR can be added directly as a powder without being pre-mixed with water. If the NaCl content is above 2 %, PURABYK-R 5500 XR must be pre-mixed with ultrapure water before it is added to the HClO solution. In both cases, the additive should be added continuously and gradually to the HClO solution or ultrapure water over a period of 10 to 20 seconds (at 20 °C ± 5 °C). It should be stirred fast enough that a turbulent vortex current is formed, so that the powder is well dispersed and clumps are avoided. After complete addition, stirring is continued for 20 minutes and air introduction should be avoided by stirring at the suitable speed and optimal positioning of the stirrer.

The time needed for the gel structure to form depends on the salt content of the solution and the quantity of PURABYK-R 5500 XR that is incorporated.



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This issue replaces all previous versions.