AkzoNobel Surface Chemistry

Alcoguard® H5941

The sustainable bio-polymer

Alcoguard H5941 is a sustainable and versatile bio-polymer. This novel product is based on unique and patented technology.

A greener choice

Alcoguard H5941 represents the second generation of hybrid polymers.

Hybrid polymers are a marriage of selected polysaccharides and synthetic monomers, designed to prevent scale formation in detergent applications such as automatic dishwash, laundry and hard surface cleaning. They are particularly effective at minimizing filming and spotting in zero phosphate automatic dishwash formulations and works as effective as synthetic co-polymers.

Environmental benefits

Alcoguard H5941 is primarily made from polysaccharides, not petrochemicals. This eco-premium technology performs similar to widely available synthetic petrochemicals but is based on up to 75% renewable resources.

Alcoguard H5941 has a significantly lower carbon footprint (lifecycle assessment available) than traditional petrochemical based polymers.

Hybrid polymers are also biodegradable, which makes them an environmentally friendly alternative to traditional polymers.

- Buy a ton of product, save more than 500 kg of CO_2
- Renewable carbon index of 75%
- Alcoguard H5941 is readily and anaerobicallly biodegradable following the OECD 301 B and 311 TG protocols

ALCOGUARD H5941
HYBRID POLYMERS

Alcoguard H5941 in Automatic DishWash (ADW)

With the newest amendment of the EU Detergents Regulation No 648/2004), reducing phosphates and other phosphorous compounds in 'consumer' automatic dishwasher detergents as from 1 January 2017, co-builders play an even more important role. Polycarboxylates, which are used as co-builders need to perform to the highest standard with weaker builders replacing phosphates. They prevent the formation and the deposition of scales on dishes (filming and spotting), glassware, cutleries etc. Polycarboxylates generally used in ADW formulations provide:

- Threshold stabilization (polymer sequesters Ca^{2+} and Mg^{2+} to prevent the formation of insoluble salts)
- Dispersion (polymers disperse particles using steric stabilization and electrostatic repulsion)
- Crystal growth inhibition

Alcoguard H 5941 provides the same functions as synthetic polycarboxylates in ADW formulations.

P-AA-MA copolymer | Alcoguard H5941 | Sulfonated copolymer | No polymer

Rinse performance test method (adapted version of testing conditions, used by several external testing institutes within EU)

Dishwasher: Miele G1222SC
Water hardness: 11°dH
Soil: 50 g/wash

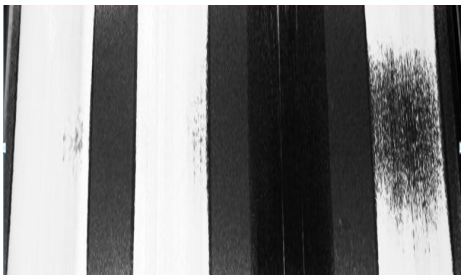
Program: R50° 3'/8'20' KI65
No rinse aid
3 cumulative tests

Formula based on the standard IEC-B for dishwashers
6% polymer - as 100% active

Alcoguard H5941 in Hard Surface Cleaning (HSC)

Due to the chemical structure of the hybrid polymers, mixing natural and synthetic monomers, they show high stability in alkaline conditions, which makes them suitable for household but also Industrial & Institutional (I&I) cleaning applications.

A small addition of Alcoguard H5941 in HSC products boosts the overall cleaning performance of the formulation.



P-AA-MA standard | Alcoguard H5941 | Market reference | No polymer

Alcoguard H5941 in laundry detergents

The very good solubility of Alcoguard H5941 makes it an excellent anti-redepostion polymer in laundry detergents. Alcoguard H5941 power the electrostatic stabilization of particulate soil, thanks to the steric hindrance of the polysaccharides parts, and is well effective in crystal growth inhibition. All of this makes Alcoguard H5941 a revolutionary polymer which performs as well as the standard polyacrylate based polymers.

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