Alcoguard® H 5941

Readily biodegradable hybrid polymer

Alcoguard H 5941 is a sustainable and versatile hybrid polymer. This novel product based on unique and patented technology is readily biodegradable and derived from 75% bio-based materials.

A greener choice—Alcoguard H 5941 represents the next generation of hybrid polymers.

Hybrid polymers are a marriage of selected polysaccharides and synthetic monomers combined into one molecule to make the hybrid polymer. Designed to prevent scale formation in detergent applications such as automatic dishwasher, laundry and hard surface cleaning, Alcoguard H 5941 hybrid polymer is particularly effective at minimizing filming and spotting in zero phosphate automatic dishwash formulations and works as effectively as synthetic copolymers.

Environmental benefits

Alcoguard H 5941 is primarily made from polysaccharides, not petrochemicals. This eco-premium technology performs similarly to widely available synthetic petrochemicals but is based on 75% renewable resources.

Alcoguard H 5941 has a significantly lower carbon footprint (lifecycle assessment available) than traditional petrochemical based polymers.

Hybrid polymers are significantly more biodegradable than typical synthetic polymers, which makes them an attractive environmentally friendly alternative to traditional polymers.

With Alcoguard H 5941:

- buy one ton of product, save more than 500 kg of CO₂ from raw material manufacturing emissions
- renewable carbon index of 75%

- product is readily biodegradable – both aerobically and anaerobically following the OECD 301B and 311 TG protocols
- compliant with EU Ecolabel requirements

Alcoguard H 5941 in automatic dishwash (ADW)

With the newest amendment (No 259/2012) 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, cutlery etc. Polycarboxylates generally used in ADW formulations provide:

- Threshold stabilization (polymer sequesters Ca²⁺ and Mg²⁺ 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.

Rinse performance test method

(adapted version of testing conditions, used by several external testing institutes within EU). Formula based on the standard IEC-B for dishwashers; 6% polymer - as 100% active

P-MA-A  copolymer
Alcoguard H 5941
Sulfonated copolymer
No polymer

Dishwasher: Miele G1222SC
Program: R50° 5’6”/20’ X16S
Water hardness: 11°dH
Rinse aid: None
Soil: 50 g/wash
3 cumulative tests
About Nouryon
We are a global specialty chemicals leader. Markets worldwide rely on our essential chemistry in the manufacture of everyday products such as paper, plastics, building materials, food, pharmaceuticals, and personal care items. Building on our nearly 400-year history, the dedication of our 10,000 employees, and our shared commitment to business growth, strong financial performance, safety, sustainability, and innovation, we have established a world-class business and built strong partnerships with our customers. We operate in over 80 countries around the world and our portfolio of industry-leading brands includes Eka, Dissolvine, Trigonox, and Berol.

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