

***kuraray***

A NEW ERA IN PVOH

***kuraray***  
***poval***<sup>TM</sup>

Here to Innovate





## Dawn of a new era in polyvinyl alcohol

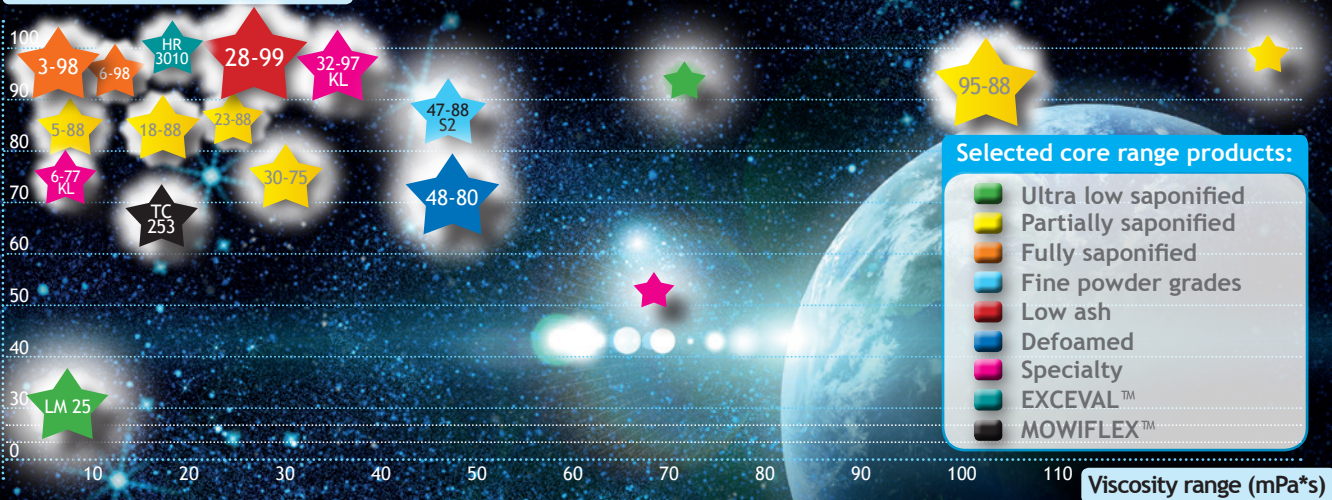
Kuraray is bundling its global polyvinyl alcohol (PVOH) products under the name **KURARAY POVAL™**. **KURARAY POVAL™** meets all requirements - from low to high viscosity, partially to fully saponified PVOH. The range contains more than 120 products for a wide variety of applications and is supplemented by two speciality ranges: **EXCEVAL™** and **MOWIFLEX™**. With more than 70 years of experience and extensive production and applications expertise, we can tailor the properties of our polymers precisely to our customers' specifications. "Here to Innovate" is therefore both our slogan and our promise to you. Kuraray's PVOH adds value to your products and brings clear benefits:

- extensive range of standard products and specialities
- competent technical service
- global network of production facilities, service laboratories and logistics centers
- consistently high product quality
- reliable products
- investment in the development of new products and applications



### KURARAY POVAL™ - 120 products covering all important applications

Degree of hydrolysis (mol%)



## EXCEVAL™ - Kuraray's water-soluble ethylene vinyl alcohol

EXCEVAL™ is the trademark of Kuraray's halogen-free hydrophobic polyvinyl alcohol. Although EXCEVAL™ is water-soluble similar to fully hydrolyzed KURARAY POVAL™ grades it absorbs less moisture at ambient temperatures in comparison. Hence EXCEVAL™ is the polyvinyl alcohol of choice for water resistant emulsions, for D3 and D4 adhesives. Furthermore, EXCEVAL™

produces coatings with excellent gas barriers, e.g. towards oxygen, nitrogen and carbon dioxide, even in humid environments.

**exceval**™

## MOWIFLEX™ - Thermoplastic processable polyvinyl alcohol

MOWIFLEX™ is Kuraray's polyvinyl alcohol-based polymer compound for thermoplastic processing. This nontoxic resin is water-soluble and forms clear, glossy films. It has high tensile strength and can be processed using conventional thermoplastic technologies (blown film extrusion, injection molding, 3D printing, etc.).

Moreover, MOWIFLEX™ can be colored, allowing processing as a highly concentrated masterbatch.

**mowiflex**™





## KURARAY POVAL<sup>™</sup> - A champion in versatility



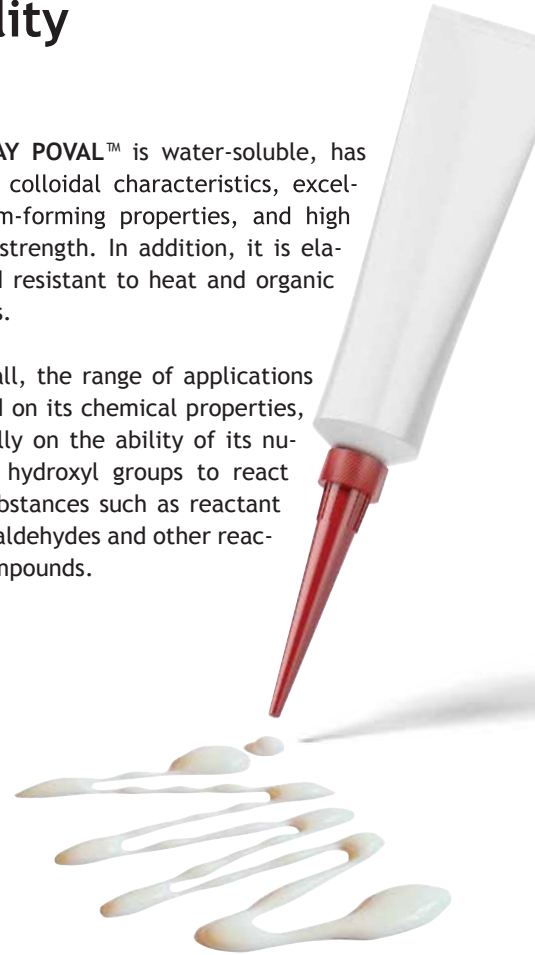
The applications of polyvinyl alcohols are wide-ranging: their main uses are in the paper, textile, emulsion, PVC, construction, adhesives, packaging, and oil industries. As flexible, tear-resistant barrier films with a neutral taste, they keep food and other products fresh. In the paper industry they play an important role, as carriers for optical brighteners, in barrier coatings against mineral oils/fat, and in paper for inkjet printing.

As a component used in the cementation of oil wells KURARAY POVAL<sup>™</sup> controls fluid loss and the setting time of mortar. It is also used as a temporary binder to facilitate the production of high-strength industrial ceramics. Its solvent resistance ensures the functionality of protective clothing.

KURARAY POVAL's<sup>™</sup> unique colloidal properties assist in the production of suspensions for PVC polymerisation and the manufacturing of VAE emulsions. A high polyvinyl alcohol content in the production of sponges makes them resistant to chemicals and enhances their mechanical stability. The physical and chemical properties of polyvinyl alcohols make them suitable for a wide range of applications.

KURARAY POVAL<sup>™</sup> is water-soluble, has specific colloidal characteristics, excellent film-forming properties, and high tensile strength. In addition, it is elastic and resistant to heat and organic solvents.

Above all, the range of applications is based on its chemical properties, especially on the ability of its numerous hydroxyl groups to react with substances such as reactant resins, aldehydes and other reactive compounds.



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## Adding value to your products - worldwide



KURARAY POVAL™, EXCEVAL™, ELVANOL™ and MOWIFLEX™ are the trademarks for polyvinyl alcohols made by Kuraray. Their key characteristics – outstanding film-forming properties and high binding strength – add real value to your products. Our polymers are water-soluble, highly reactive, crosslinkable and foamable. They have high pigment binding capacity, protective colloid characteristics and thickening effects. The physical and chemical properties of KURARAY POVAL™ make it ideal for a wide variety of applications, ranging from adhesives through paper and ceramics to packaging

films. Many of our polymers are food contact-approved and thus suitable for food applications. Ecologically KURARAY POVAL™ is advantageous due to its biodegradability and the fact that combustion does not generate residues. It is available in various particle sizes - from granules to fine powders.

Kuraray produces its wide range of KURARAY POVAL™ grades in Japan, Singapore, Germany and the USA. Kuraray's global production and service network make us your partner of choice for innovative high-quality PVOH resins.

**KURARAY – Here to Innovate.**

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